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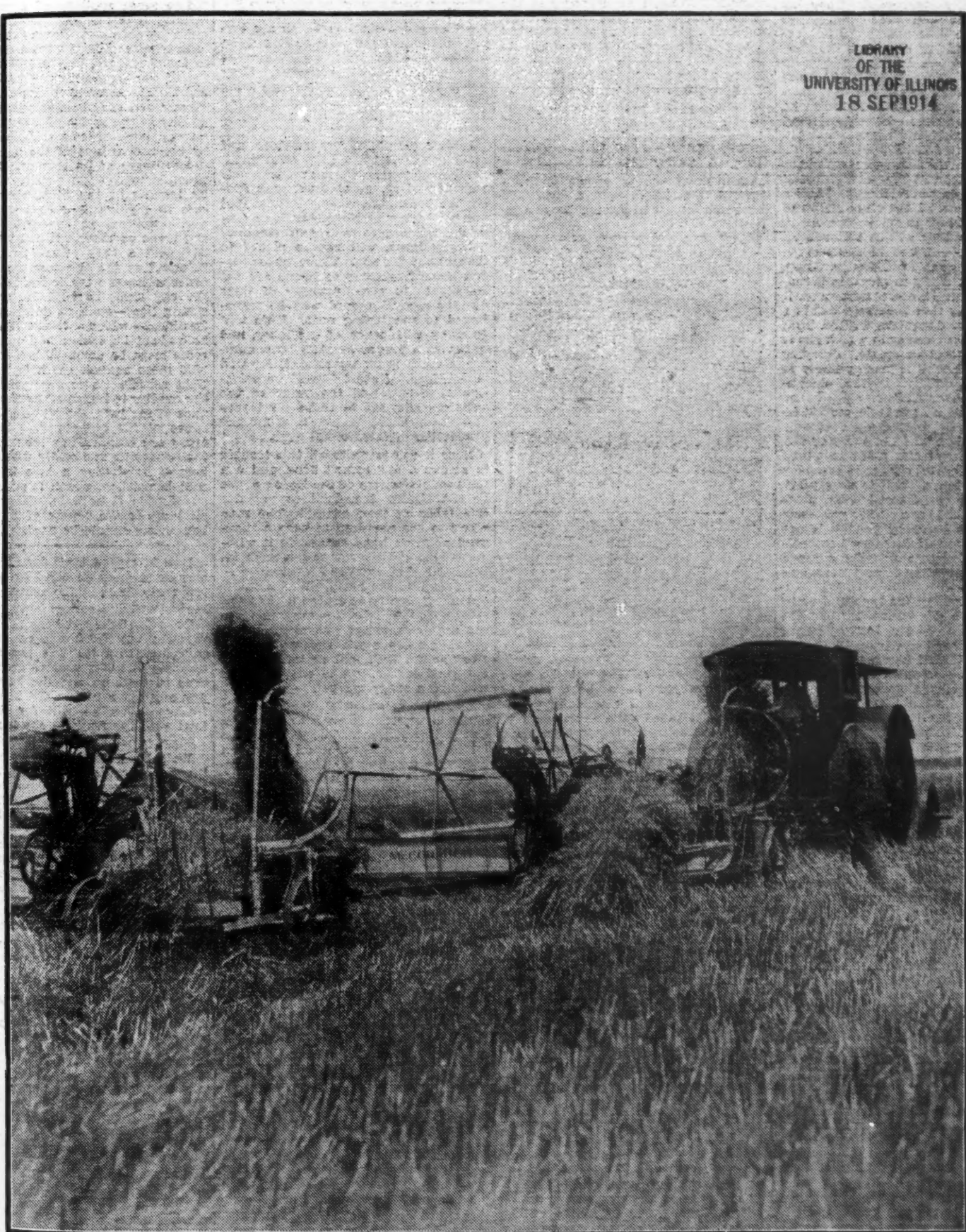
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OLDEST AGRICULTURAL AND LIVE STOCK JOURNAL IN THE MISSISSIPPI VALLEY

Sixty-Seventh Year.

ST. LOUIS, MO., AUGUST 13, 1914.

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IN THE POULTRY YARD

DOES IT PAY?

The aim of the producer of commercial eggs is to produce the greatest number at the least cost. To make egg production profitable the hens must lay well for at least 250 of the 365 days in the year. We all know there are many hens which do not lay eggs enough to pay for the feed they eat, while others are extremely profitable. If all the hens were like the best hens in our flock it would not take such a great number of them to make a poor man rich, while the poor layers can make a rich man poor. By careful selection and breeding the production of hens has gradually increased. They lay more eggs now than they did 50 years ago. At that time people did not expect to get winter eggs, nor did they expect to do much during the summer and fall while in the molt. The average farm flock would lay only during the spring months, and those who wanted winter eggs resorted to some method of preserving them.

Even now we have hens which do not lay except in the spring and then only moderately. These are the kind of hens the commercial egg farmer wants to get rid of, but from a lack of knowledge of how to select them or in the belief that they will do better later, they are retained, and in many cases their eggs are used for hatching, which is very likely to result in breeding more poor layers. Of course, it does not imply that because a hen is a poor layer her daughters will be. That depends on the manner in which she is mated. A prepotent male, carrying the laying instinct, is just as likely to impart this quality to the daughter of a poor layer as to the daughter of a good layer. The chances are that the cockerels from such a hen will not carry or impart the laying trait. That is where we run the greatest chance in breeding from a poor layer. If it is simply her daughters we can discard them, if we know how, but if one of her cockerels gets into the breeding pen he is apt to cause havoc and disarrange our calculations. Unless we pedigree breed there is no certainty of an increase of production.

Careful selection for type and vigor all breeders, and a knowledge that the breeding male had a heavy laying mother may help to a certain extent, but there will still be many poor layers. This is also the case where we trap nest, but here we can easily detect them and weed them out. Many careful breeders have installed trap nests and attempted to breed up a great laying strain by their use. Most of those who have stuck to it long enough have succeeded, but owing to the great amount of labor involved many have abandoned the use of trap nests or use them only during the breeding season. This latter plan is productive of good results where one is able to pick out the good layers when mating the pens.

To make egg production profitable we must secure a large number of eggs, and whether it pays best to keep a large flock of moderately good layers or a smaller flock of highly productive hens is the question to be decided. The large flock requires more capital invested in houses and stock. The small flock requires more attention to breeding. On the large commercial egg farms the trap nest is impractical. It would cost almost as much to trap 2,000 laying hens the entire year as the profit on their eggs would amount to. If one traps continually from 200 to 500 hens is about all one person can care for and look after the growing stock to keep up the flock. Unless the hens are uncommonly productive this number will not afford the remuneration one is wont to expect who takes up the production of commercial eggs as a business.

For nearly ten years I have trapped my pullets designed for breeders and the breeding hens. It has been a steady and tedious grind. It means that in that time I have visited the coops something like 15,000 times. The



duty could not be shirked and must be done every day, whether there is a circus in town or not. Many times I have been on the point of abandoning the work, but the thought that it would render useless all that I have accomplished sustained me. As I think it over I am in doubt whether it has paid or not. In fact, I am strongly of the opinion that it has not paid in dollars and cents. What I learned about the laying hen has been of much use to me, but if I had been on terms of intimacy with my flocks I might have secured a portion of this knowledge without the use of trap nests. Most poultry keepers know how to tell the laying hen and a little study in that direction will enable them to pick out the good layers.

I am pretty well convinced that if I had not trapped my hens and devoted the same time and energy to raising



Good Tools Make Work Easier.

more stock and culling out the poor layers, I would have been money ahead. The plan I should have followed is to breed from the most vigorous females, using males from some reliable breeder who does trap, or select males that came from great laying hens. I should raise about twice as many pullets as I cared for, so as to have plenty to select from and keep the culling up continually. Yearling hens should be culled twice a year and this selection may continue to the two and three-year-old hens, as it is their laying condition rather than their age which determines their value. If I had followed such a course I would have been able to care for and raise the stock to keep up a flock from one to two thousand hens with the same labor I now expend on about 300 breeders.

By the use of trap nests and pedigree breeding we can build up a laying strain which will reproduce itself to a marked degree, but is the game worth the price? I hardly think so, and this conclusion is reached after 10 years' of use. The number of pedigreed birds that can be produced is too small, even though they are the best of layers, to return sufficient revenue. We might better discard half the pullets we raise, and will then be able to secure double the number we can by pedigree breeding, and if these selected pullets do not lay quite as many eggs each as the pedigreed stock, the aggregate will be greater. If the pedigreed hens return a net profit of \$3 each and the selected hens \$2 each, we can certainly make more money from 1,000 of the latter than we can from 300 of the former, and the labor will be about the same.

The trap nest is invaluable to the fancier, and it is profitable to use it during the breeding season on the commercial egg farm where operations are not carried on too extensively. It is a satisfaction to have the yearly records of our breeders, and especially those from which we select our cockerels, but it is not profitable to use trap nests on the laying stock in the hope of securing a few record hens for the breeding pens or in order to determine which hens are profitable. There are other ways this can be ascertained which are much simpler. By the flock record we can estimate the number of hens which are laying. If the percentage is small we should make an examination of the hens, say once in two weeks, and note down the band numbers of those which are laying. If this is done three or four times it will not take long to find out the hens which are not producing. Hens which show no signs of laying during two or three examinations may be put down as poor layers and not worth keeping.

I have simplified my methods and shall use trap nests only on a small number of pullets for securing yearly records and in the choicest pens during the breeding season. Pullets that are not laying by November 1, or that do not come up to the requirements of a heavy layer, will not be placed in the trapnesting pen. Those whose records from November to March are not sufficient to give promise of their making a good record will be transferred to the laying pens. This will do away with much of the labor, and by having a proportionately large number of visits to the house each day will be lessened. I shall depend on selection to determine the value of the pullets which are to make my layers and the hens to be retained for the production of commercial eggs.

Does it pay to go to all this trouble to secure a few record hens, and can the productiveness of the laying flocks be sufficiently increased to pay for this labor of trapnesting? The man who has the ambition to keep a thousand or more hens cannot do it without considerable expense for extra labor, and this overhead expense will cut deep into the profit. Where one is operating on a large scale the time and money that will be expended in trapnesting can better be expended in growing more stock and culling the stock so the flock will contain nothing but good layers. The surplus culled will find a ready market.

From the commercial viewpoint it is doubtful whether it pays to trap nest and pedigree breed. The fixing of the laying trait by this method is slow at best. By breeding for vigor and carefully selecting the layers, flocks of more than ordinary productiveness can be secured, though there will not be the phenomenal layers that are secured by pedigree breeding, nor will the percentage of good layers be as great, but in the aggregate we can secure more eggs and make more money though the profit on each individual hen is smaller.—L. E. Keyser in American Poultry Advocate.

EVERYBODY CAN CANDLE EGGS.

Uncle Sam's Colored Chart Will Help You Tell How Fresh They Are.

To enable farmers and housewives to test eggs before a candle and tell accurately their condition before they are opened, the Department of Agriculture has just published a colored egg-candling chart. To give a true picture of the eggs, 12 impressions were necessary to produce this lithographed chart.

This chart shows the eggs in their natural size as they appear before a candle, and also as they look when open in a glass saucer. The pictures include an absolutely fresh egg, slightly stale eggs, decidedly stale eggs, eggs with yolks sticking to the shell, eggs where the chicken has developed so far that blood has been formed, moldy eggs, added eggs, and eggs with a green white.

Comparatively few housewives are aware that a green color in the white of eggs is due to the presence of billions and billions of a certain species of bacteria that make a green coloring matter. Eggs with this greenish tint, even though the yolks seem to be perfect, are not fit for food.

As long as the department's supply lasts, these charts will be furnished free upon application to the editor and chief, Division of Publications. Commercial shippers of eggs, however, should apply for Department Bulletin 51, a technical paper on testing by scientific methods not available to the average farmer. This bulletin includes the colored illustrations. This chart alone will be found to be not merely of great service to the housewife wishing to test the eggs she is to serve to her own family, but also of commercial value to farmers, country merchants, or egg shippers who wish to buy and handle eggs on an accurate quality basis.

The great spoilage of eggs in this country is due to bad handling and is quite unnecessary. Part of the remedy is to teach everybody, from the farmer to the consumer, how to tell the quality of an egg without breaking the shell. The country buyers, the middlemen and the housewife judge of the quality of the inside of a cucumber or an eggplant, or any other vegetable, by the appearance of the outside and the firmness of its texture. It is not possible to tell the quality of an egg by looking at the shell, though it is safe to say that the eggs with shiny shells are apt to be aged. A fresh egg looks as though it had been dusted with a very fine powder; the "bloom," as the egg men say. But in order to know what is inside the shell the egg must be held in front of a strong light—such as an electric bulb furnishes—which comes through a hole about 1 1/4 inches in diameter. The room must be dark. When the egg is held close against the hole the bright light renders its contents visible, and the quality is indicated by the appearance of the yolk, the white and the air space at the blunt end. There are many egg "candles" on the market, but the housewife can easily make one for herself by cutting a hole in a small pasteboard box, which is slipped over an electric light bulb. If gas or an oil lamp is the source of light, a tin box or can should be used.

Iron is a good tonic for poultry. It may be cheaply supplied by keeping a few rusty nails in the drinking water.

Get rid of the old hens and surplus roosters now. There's no money in carrying them through the moulting season. It takes feed to grow a new crop of feathers and the buyer won't pay any more for an old hen in new feathers than he will for the same fowl with the feathers she has now.

Well bred, thrifty young hens are the money-makers. And it takes good feeding and care from the chick up to get that kind of hens. All the pedigree in the world won't do it if the fowls are neglected. Compare your own flock which is fed well and regularly, given plenty of clean water and kept in clean, cozy quarters with a flock that is kept the other way. Some difference isn't there?

GET THE CELEBRATED

Sunnyside strain of Barred Plymouth Rocks, birds that lays and pays. Cockrels at reduced prices now. Write us your wants. Poultry booklet free.

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Take This Suit

Made to your measure in latest style at our special inside price to interest you, a price so low it will surprise you, a saving of \$10.00, a perfect fit and latest style, all guaranteed or money refunded. Look over our agents' outfit of wonderful samples and styles and make big money in your spare time taking orders for tailoring, see if you would like to be our regular agent and have a business of your own. For full explanation, all information, our surprising offer, book of samples and styles, all free, write a postal or letter and say, "Send me your offer," and get everything by return mail. No money or experience needed. Write now.

BANNER TAILORING CO. Dept. 235. CHICAGO



"We've chemical other for says R. F. University; ing direc laborator thorough out of soc stopping favorings chemical in hambu In 1903 tory had spector. Its wor

CREAM of the DAIRY NEWS

TUBERCULAR MILK.

That the tubercular cow is a menace to the public health and that the tuberculin test is the most reliable test for finding such cows in the herd, are things which must be granted. Yet the question remains, how shall we apply this test and eliminate the diseased cow, and will the elimination of tubercular cows mean milk free from tubercular infection?

Dairymen hate to be regulated, as they look upon it as an imposition which will be accompanied by possible financial loss. Yet if they considered the serious danger to their families and the greater possible loss from the spread of the disease to the balance of their herd, I am sure they would will-

and analysis of samples of food and dairy products, drugs, paints, oils, etc. These samples are submitted by state inspectors who make purchases where adulteration of goods is suspected, by health officers, and by district and county attorneys.

Lined oil is receiving a great deal of attention just now. Three presc-

minutes.

The temperature of the milk is very important, as air blown into cold milk does not remove the garlic flavor, and also has a tendency to churn the fat. This may make a thin layer of butter-fat form on the surface of the milk when bottled. It was found that in raising the milk to 145 degrees, which was the best temperature for the removal of the flavor, it was best to stir the milk by some mechanical means. The stirring, however, should not be too violent or it may churn the fat.

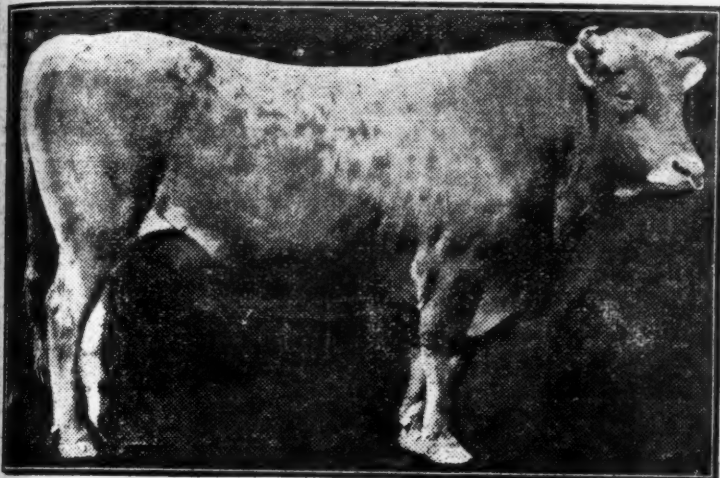
The experiments showed that when the milk was heated to 140 degrees F. or above and blown, the melted fat did not form, as it did when the milk was blown below 100 degrees F. The experiments also proved that the onion flavor is removed more quickly when milk is heated to 160 degrees, but this tends to produce a cooked taste and the cream line is reduced to a greater extent than when the milk is heated and blown at 145 degrees. With milk blown at 145 degrees the experiments showed that there was a reduction of about 50 per cent in the cream line, but this varies with the amount of agitation and the length of the blowing period.

In order to remove the flavor from cream it was found that in general a slightly longer blowing period was required than in the case of milk. The results of experiments with 30 per

cent cream show that the onion or garlic flavor may be removed more quickly at 160 degrees F. than at 140 or 145 degrees. It would probably be possible to use 160 degrees F. when the cream is to be used for butter making, but for direct consumption the cooked taste produced by long heating at 160 degrees F. is undesirable.

When milk or cream is treated by this process it was found that there is a loss by evaporation which amounts to 2 or 3 per cent. Therefore it is advisable to use the minimum amount of air which will remove the flavor.

You can get a lot of good cow feed by sowing an acre of white turnips right away. If sown broad cast on clean land they will make a good crop without any cultivation. The land ought to be mellow and well worked up. Then if it is rolled and the seed sown just before a rain, lots of feed that will put extra quarts of milk in the pails next winter is pretty certain.



Good Type of Jersey Bul.

Apply the test and sell the reactors.

Health officers are prone to lay all blame for tubercular milk at Bossie's door. We have legislated in the past and will legislate in the future to do away with the tubercular cow, which is well and good, but do we ever stop to think that the cow is but one of the sources of infection. City ordinances are made and enforced, requiring the tuberculin test of all cows supplying milk to the city, yet they will permit the employment of tubercular laborers in handling and distributing milk in the cities. The question is not which is the greater menace to pure milk, the tubercular cow with an ordinary localized case in some other organ than the udder, or the tubercular men in the bottling room pushing bottle caps into the necks of bottles filled with pure milk? They both are a serious menace and should be eliminated. Will we ever accomplish much toward improving our milk supply unless we consider both? Our endeavor will be fruitless if we disregard either. We can slaughter all reactors from now to doom's day and yet have tubercular milk unless we also eliminate the tubercular laborer from milk plants.

I am sure dairymen would take more kindly to our ordinances and abide by them more closely if they saw they were not the only ones regulated, and that there was an actual attempt to get pure milk to the consuming public.—H. E. Dvorachek, Animal Husbandry Department, Colorado Agricultural College.

LESS ADULTERATION OF MILK.

"We've just about stopped the use of chemical preservatives in milk and other food products in Wisconsin," says R. Fisher, professor of chemistry, University of Wisconsin, and consulting director of the state pure food laboratory. "And we've done pretty thorough work in driving saccharine out of soda pop and other soft drinks, stopping the use of wood alcohol in flavorings, and abolishing the use of chemical preservatives and colorings in hamburger steak and sausage."

In 1903 the state pure food laboratory had only one chemist and one inspector. Now it employs five chemists and a number of inspectors. Its work consists of the examination

tions a week have been made on the average for some time past because of its adulteration.

BLOWING AIR THROUGH HOT MILK OR CREAM WILL REMOVE GARLIC FLAVOR.

The disagreeable flavor and odor left in milk when cows eat wild onion or garlic within four hours before milking, can be removed by blowing filtered and washed air through the milk for 30 to 60 minutes, according to the strength of the garlic flavor.

This conclusion, which is published in U. S. Department of Agriculture Farmers' Bulletin 608, shortly to be issued, is the result of a series of experiments made by the Dairy Division on methods of removing the garlic flavor which greatly lessens the commercial value of milk and cream.

To remove the garlic flavor successfully, however, the milk must be raised to a temperature of 145 degrees and a method devised to keep the milk from foaming when the air is blown through it. To do this, the investigators constructed a special apparatus. This consisted, first, of a large can with a smaller one resting on legs inside it. The space between the outer and the inner cans was for the hot water to heat the milk to 145 degrees. The air pipe was introduced into the inner can near the bottom and washed, filtered air was pumped through it. From the bottom of the inner can also was a pipe connecting with a small milk pump which raised the milk into an upper tank supported by legs three inches above the inner milk can. The upper tank had a perforated bottom with holes about 1-32 of an inch in diameter and half inch apart.

The milk raised by the pump falls into this upper tank, and through the perforations drops back in fine streams into the milk can below. This keeps down any froth that is raised by pumping air through the milk. The dropping of the milk helps also to aerate it and assists in removing the garlic flavor. The air was pumped into the milk at the rate of about one-fifth of a cubic foot of air per gallon of milk per minute. It was found that this apparatus, in from 30 to 60 minutes, removed all the garlic odor and flavor from the milk. In the case of cream, the flavor was removed in about 45

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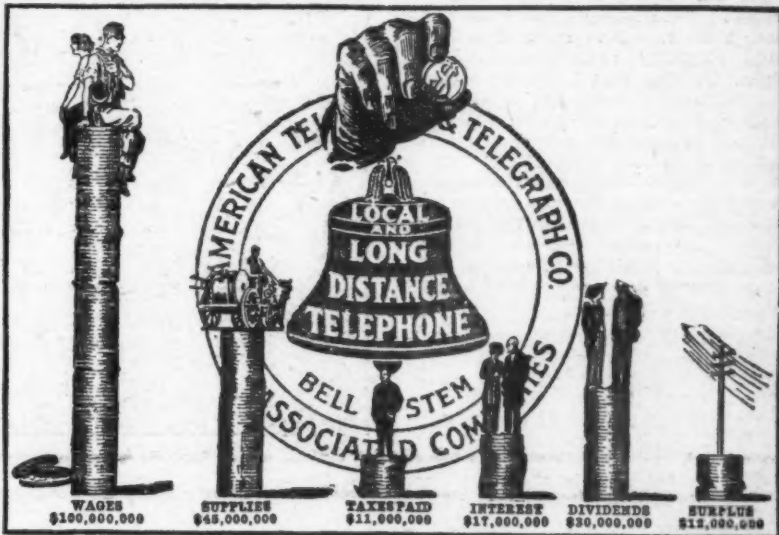
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Every subscriber's telephone represents an actual investment averaging \$153, and the gross average revenue is \$41.75. The total revenue is distributed as follows:

Employees—\$100,000,000

Nearly half the total—\$100,000,000—paid in wages to more than one hundred thousand employees engaged in giving to the public the best and the cheapest telephone service in the world.

For Supplies—\$45,000,000

Paid to merchants, supply dealers and others for materials and apparatus, and for rent, light, heat, traveling, etc.

Tax Collector—\$11,000,000

Taxes of more than \$11,000,000 are paid to the Federal, state and local authorities. The people derive the benefit in better highways, schools and the like.

Bondholders—\$17,000,000

Paid in interest to thousands of men and women, savings banks, insurance companies and other institutions owning bonds and notes.

Stockholders—\$30,000,000

70,000 stockholders, about half of whom are women, receive \$30,000,000.

(These payments to stockholders and bondholders who have put their savings into the telephone business represent 6.05% on the investment.)

Surplus—\$12,000,000

This is invested in telephone plant and equipment, to furnish and keep telephone service always up to the Bell standard

**AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES**

One Policy

One System

Universal Service

Cattle

FORAGE FEEDING.

The growing of live stock for market by forage feeding is the distinctive feature of the demonstration on the farm of Mr. Joseph Kinkaid at Warsaw, Mo., inaugurated by the Missouri Pacific Railway. The railway company already has demonstration farms in operation at various points along its line, but this is the first venture of the company into the field of animal husbandry. On September 1 100 head of hogs, 200 sheep, 50 breeding ewes and 150 Idaho lambs will be brought on the farm. The soil is now planted to a variety of forage crops, sown in succession, consisting of cowpeas and corn together, cowpeas planted separately, oats, soy beans, rape and rye pasture. The crops are in first-class condition at the present time. The animals themselves will do the harvesting, thus doing away almost entirely with the item of expense for labor in that respect. As the experiment is for the purpose of showing that this kind of animal husbandry, which has been successfully introduced by Prof. H. Doan, head of the farm management of the Missouri Agricultural College, on many farms throughout the state, returns the maximum profit in addition to building up the soil, close check will be kept on every item of expense and on the gain made by the animals on the different forage foods.

The agricultural department of the Missouri Pacific-Iron Mountain is one of the hobbies of President B. F. Bush and much interest in the experimental farm work being done has been manifested by the farmers along the company's lines. Just recently a large land company near Sheridan Lake, Colo., desiring that incoming settlers should have the benefit of scientific farming methods, set aside a 320-acre farm to be used under the direction of the Missouri Pacific road as a demonstration farm. Within the next year it is proposed to make this a model farm for that section of the country.

ILLINOIS CATTLE FEEDERS INSPECT "BABY BEEVES."

On July 21, fully 300 feeders of Illinois and surrounding states assembled in the new live stock pavilion on the University of Illinois campus to hear several addresses and to learn the results of a cattle feeding trial just completed.

The steers used in the test were high grade Angus calves costing \$8.85 in the lot. They were carefully divided into seven uniform lots of 10 each and placed under identical conditions except for the difference in feeds. Various rations of shelled corn, cottonseed meal, corn silage, and alfalfa hay were fed, and oat straw for dry feed in the case of one lot.

They were placed on feed November 22, 1913, and fed for 238 days.

Lot No. 1, fed on a ration of corn, cottonseed meal, and silage, proved the most profitable. It was shown by another lot that the use of alfalfa in addition to the above mentioned ration did not affect the rate of gain, but did increase the cost of gains and reduced the profits. Oat straw added to the above ration, reduced the rate of gains, increased the cost of gains, and reduced the profits. The substitution of alfalfa for corn silage in the middle of the feeding period decreased the rate of gains, increased the cost of gains, and reduced the profits.

One of the speakers of the morning who is a very successful cattle feeder said: "For the feeder who is buying a bunch of cattle in the feed lot and does not want to loaf along but to turn them in after a short feeding period, I think that a silo and the feeding of ensilage is unprofitable."

The results of the feeding tests did not seem to bear him out in the statement.

In the same connection, Dean Skinner of Purdue University said: "If one will look up the results of any experiment station, he will find that the cost of gains made where silage was fed will rank up with any other food."

The business of the day was concluded with a business meeting of the as-

sociation. Resolutions were adopted condemning the existing maximum valuation of cattle now in force among the railroads of the country. Hon. Chas. Atkins of Bement, Illinois, was elected president; Roy Johnston of Taylorville, vice president, and Prof. H. P. Rusk of Urbana, secretary.

These "Baby Beeves" sold on the Chicago market on Thursday for \$9.25. This was the top price on yearlings—being 15 cents higher than any that were sold this year.

TWENTY RULES FOR RAISING BEEF IN THE SOUTH.

Eradicate the tick on the farm. Good pastures are essential for profitable beef production.

Plant pasture grasses over the waste lands. Use pure-bred beef bulls for grading up the native stock.

Always select the best heifers for breeding purposes.

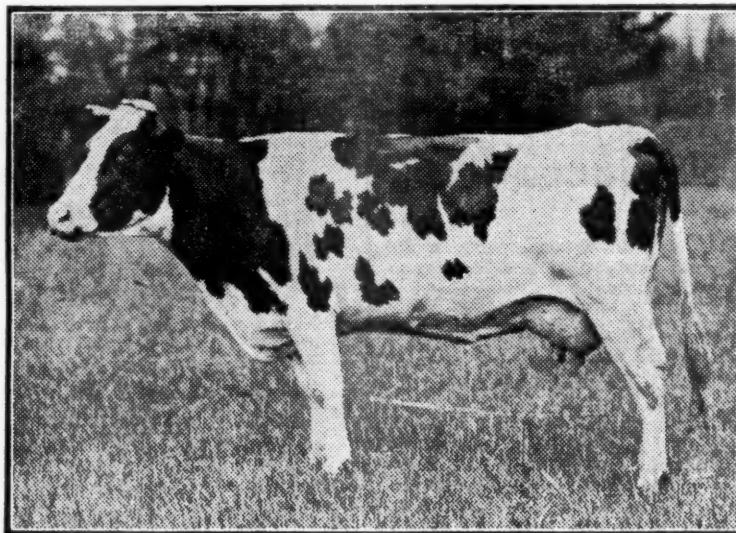
Use the coarse fodder, straws, and the stalk fields for wintering the breeding herd.

Wean the calves when pastures get short. Put them in the cornfield and pea fields while weaning and teach them to eat cotton-seed cake or cotton-seed meal.

Raise and finish beef cattle on the same farm when possible.

A mixture of cotton-seed meal, cotton-seed hulls, and alfalfa hay is a good ration for fattening calves.

Silage is the best roughage for fattening any class of cattle.



The Queen of the Herd.

More care is necessary in feeding calves than in feeding grown cattle.

At the present prices corn silage is a cheaper and better feed for fattening beef cattle than cotton-seed hulls.

Hulls and cotton-seed meal make an excellent feed for a short feeding period, but do not produce good gains on cattle after the third month.

It is not entirely satisfactory to use corn stover as the sole roughage.

While Johnson grass hay costs \$10 and hulls \$7 per ton it is more profitable to feed the hulls alone.

Summer feeding on the pasture is usually more profitable than winter feeding.

Finishing cattle early in the summer is usually more profitable than finishing them later in the season.

Fattening steers on grass and cotton-seed cake is nearly always more profitable than grazing them without feed.

Thin steers make larger and cheaper daily gains than fleshy ones when put on pasture.

Pound for pound cold-pressed cotton-seed cake is not equal to the common cotton-seed cake.

The use of a small amount of corn in addition to cotton-seed cake has proven profitable for feeding steers on grass.

The bulletin, with its 20 pages and nine illustrations, also contains an interesting discussion of the various breeds most serviceable in grading up the native stock. It is sent free on request.

If the yolk of an egg is put in a dish and covered over with water it may be kept a couple of days.

KEEPS FLIES OFF STOCK.

Sweet clover has the peculiar quality to keep flies off horses or cattle. If you hang a sweet clover bunch on a horse flies will not disturb the animal. We have done this for several years and our animals stay fat during the summer as a result. Our cattle graze in sweet clover all the time and there are no flies to bother them because flies will not stay in a field of sweet clover. We always tie a bunch of sweet clover on the harness of all our driving horses when we leave the farm and it helps wonderfully in preventing their being molested by all kinds of insects.—South West Trail.

THE MENACE OF MILK.

The cow that has tuberculosis is a menace to the health of everyone who uses her product. Investigators are pretty well agreed that the disease is transmissible to man. And you can't always tell by the looks of a cow whether or not she has the disease. She may be pretty badly infected and yet milk well and seem to be in good health.

The tuberculin test is the only sure way of finding such cows in the herd. But dairymen are not always enthusiastic about the use of the test. In fact it often meets with opposition. This ought not to be so. If there is disease and death in the milk pail we ought to know it—for our own sakes and the sake of those to whom the milk is sold.

But other ways in which tuber-

culosis is spread should be looked after also. Here are some ideas on the subject by H. E. Dvorachek, of the Colorado Agricultural College, which are worth reading and thinking over.

Health officers are prone to lay all blame for tubercular milk at Bossie's door. We have legislated in the past and will legislate in the future to do away with the tubercular cow, which is well and good but do we ever stop to think that the cow is but one of the sources of infection?

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EATS AND DRINKS, BUT CAN'T SUCK

No prongs to hurt animals. Weans every time. Sample Cooley Weaner (free for 30 days) which time you may return weaner or retail price, which is 50c.

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TO MAKE GOOD BUTTER.

Cool the cream from the separator as soon as possible to 55 degrees F. or lower.

Never mix warm cream with cool cream.

Mix all the cream to be churned in one vat or can at least 18 hours before churning.

Ripen at a temperature of 70 to 75 degrees F. for from six to eight hours, stirring frequently during this period.

Cool cream to churning temperature as soon as ripe.

Let the cream stand eight hours or more (over night) at the churning temperature.

The temperature of churning should be such as to make the butter come in from 35 to 40 minutes, usually 55 to 60 degrees F.

If it is desired to use artificial coloring, it should be added to the cream just before churning.

Stop churning when the granules are about the size of peas, varying to wheat, and draw off the buttermilk.

Wash the butter once with pure water at the churning temperature, agitating three or four times, and drain.

Wash a second time with water about four degrees above churning temperature, agitating seven or eight times, and drain.

Add the salt wet while the butter is in granular form, using about one to one and one-half ounces for each pound of butter, according to the demands of the market.

Work the butter just enough to distribute the salt evenly.

If the butter is to go on the market it should be put up in neat, attractive packages.

TO MEND BROKEN DISHES.

An excellent cement for broken dishes, glassware, and, for emergency, in mending a broken eyeglass, is made of thick shellac. Carefully coat the broken edges with the shellac and then heat the article, as much as it will stand, to dry the shellac thoroughly. Broken dishes put together with this cement will hold indefinitely, as the shellac will not absorb moisture.—Popular Mechanics.

A Guess.

"Do you know that your chicken come over into my garden?"
"I thought they must be doing that!"
"Why did you think so?"
"Because they never come back!"

Horticulture

Prof. Pittier one of the best known botanists in the United States, recently discovered in Panama a legume which produces the largest beans known. At first he thought of dedicating it to the city which has made beans famous—Boston—but later decided to name it instead for Colonel Goethals, *Goethalsia Isthmica*.

WIND SPREADS MOTH.

Experiments conducted by the United States bureau of entomology prove that the newly-hatched caterpillars of the gypsy moth may be blown, under favorable conditions, a distance of six miles or more. Thus the wind is an important factor in the spread of this destructive pest.

DODDER IN ALFALFA.

Dodder is a parasitic seed plant. The stems are slender, thread-like, yellowish or reddish and twine about the plant upon which they live. The life-history of dodder is peculiar. The seeds germinate in the ground. The young dodder plants soon attach themselves to other plants. Then the stems connecting the dodder to the soil soon break away, leaving it entirely attached to the host plant from which it must secure all of its nourishment. Avoid the introduction of dodder seed with alfalfa seed. Pains should be taken to remove affected spots in the field. In the large majority of instances this procedure will be sufficient. If the stand of alfalfa is very badly affected, plow up the crop before the dodder goes to seed and put the land in a cultivated crop for two or more years.—W. W. Robbins, Colorado Agricultural College, Fort Collins, Colo.

THINNING APPLES.

The Utah Agricultural College during 1911 and 1912 thinned the fruit on a number of apple trees to determine the exact value of this orchard practice. It was found that the yield was not reduced, and, what was more important, it graded higher when thinned so that the apples were at least four inches apart.

In 1911 there was 61.3 per cent fancy fruit on thinned trees and 15.1 per cent on unthinned. In 1912 there was 38 per cent of fancy and extra fancy fruit on thinned, compared with 22 per cent on unthinned trees. The culls varied from 6.4 per cent on thinned to 30.3 per cent on unthinned trees in 1911, and in 1912 from 13 per cent to 21 per cent.

When reduced to dollars and cents it was found that the net returns were \$30 per acre. The cost of thinning always lessens the cost of sorting. Mr. Farnsworth of Ohio, says that it is cheaper to thin fruit on the trees than it is to pick the culls in the fall. In other words it is more profitable to handle good fruit than poor fruit. Thinning should be done when the apples are about one inch in diameter. Do not leave any apples nearer together than four inches.

TREATMENT OF RASPBERRIES AFTER BEARING SEASON.

The productiveness of the raspberry plantation next year will depend largely on the treatment received after the present season's harvest is over. As soon as the picking season is past, all old canes—those that have borne berries this year—should be cut out and burned, leaving the entire space for the new canes. About 10 of the new canes are left in a place, any in excess of this number being pruned out. This is a larger number than is necessary, but provides against the breaking of some of the canes when they are covered in the fall.

The plantation should be cultivated every week or 10 days until the latter part of August when cultivation should cease in order to permit the wood to mature before cold weather sets in. Irrigation should be thorough but not frequent. This treatment will keep the plants in a vigorous healthy condition and aid them to store up food for the crop next season.

Some growers prefer to top the new

canes, and this is desirable where they tend to grow too high. Such topping should be done in August, leaving the canes about four feet high.—R. A. McGinty, Colorado Agricultural College.

CUCUMBER ANTHRACNOSE.

An Iowa correspondent sends us some samples of cucumber leaves that have turned yellowish brown in spots and have begun to wither. He writes: "Can you tell me what is the matter with my cucumbers? One day they are all right, and the next day the leaves are like the one enclosed. I can not find anything on them. I do not know whether or not there is anything on the roots. Will you please tell me what is

weather as is dirt.

This is the time of year when the well-cared-for garden is reducing the table expense greatly, besides giving a fine variety of food.

Order tulip, hyacinth, and other winter and spring flowering bulbs. They do not need to be planted until the last of September or October.

Many of the wild flowering plants are worthy of growing in the home yard. Some that have been especially good this year are the New Jersey tea, Indian puccoon, milkweed, wild sunflower, and blazing star. Violets, bloodroot and other spring flowers are sometimes transplanted.—LeRoy Cady, Associate Horticulturist, University Farm, St. Paul.



The Long Roots Use the Farm Under Your Farm.

OUR EARTH AS A STAR.

Editor Rural World:—In our former astronomical article our earth was viewed as a star and the reader was carried in imagination from the sun to Mercury, Venus and the moon. Let us now continue the article and view our earth as a star from points in our solar system beyond the earth's orbit.

The next objective point beyond the earth's orbit is the planet Mars. From that ruddy world our earth would present very much the same appearance and go through the same phases as does the planet Venus, but would look somewhat smaller and less brilliant. Our Martian observer would view our earth sometimes as a morning and again as an evening star of rich coloring and great beauty.

Aided by the telescope he would observe all our continents, seas and

snow caps, and also our satellite, the moon, playing hide and seek around our globe. In total lunar eclipses our moon would entirely disappear. In total solar eclipses the moon's round dark shadow would be seen to move slowly across the earth's seas and lands. In transits of the earth our world would be seen as a small black dot, passing slowly over the sun's face. In occultations the moon would sometimes disappear behind the earth and again pass in transit across the earth's disc. This and much more interesting phenomena in connection with our earth and moon would be seen by a telescopic observer on that nearby neighboring world.

Proceeding farther outward in the solar system our next stopping points would be among the Asteroids or Planetoids, but as they are very small though not unimportant islets in the celestial sea we shall sail onward to a much larger landing place on that giant planet Jupiter.

From there, as on Mars, our earth would appear in the telescope as a morning and evening star, showing crescent and gibbous phases, but on account of the great distance our little moon would be wholly invisible in a telescope of ordinary power.

Voyaging farther and farther away from the earth we next come to the planet Saturn, a world so far away from us that to an observer there our earth is wholly invisible excepting in a telescope of very high power.

Far away in the boundless fields of immensity, beyond the orbit of Saturn, we arrive at the two outermost points in our solar system, planets Uranus and Neptune. They are so far away from us that to an observer on either of them our earth must remain forever invisible in telescopes of the very highest power such as we know.

Thus is concluded our article on the earth viewed as a star or planet from different viewpoints in our solar system.

GEORGE KAVANAGH.

Evening Shade, Mo.

Castrate the colt before it gets too "frisky," but don't do it at too early an age unless the animal gets dangerous. If the operation is delayed the tendency is toward a better development of the neck and shoulders. And that's money.

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Weekly Market Report

Hogs Largely Higher; Small Supply Quickly Taken at Advances of 25c to 40c—Cattle Scarce.

CATTLE—A scant supply of native cattle. There was a limited supply of beef steers and not enough to test the market. Some odds and ends sold steady, and prices were nominally unchanged. Some medium grade heifers and cows were offered. There was a good demand for the small showing and they got action early in the day. Prices were steady on the bulk and an early clearance was effected. A light sprinkling of vealers and with a good demand they sold early. Prices were unchanged, but because of lack of quality not many reached the top, which was \$10.50. Stockers and feeders were quiet and generally unchanged.

Quarantine supply was light, the estimate was only 18 cars, most of which were from Oklahoma. There was a good demand for the Oklahoma steers and they got action early. While order buyers were not heavy purchasers there was a fair inquiry from them and they offered packers a slight competition. The small supply changed hands early and the market was on a steady basis and fairly active. A normal supply of canners, consequently there was no change in the market. An early clearance of quarantine cattle was effected.

HOGS—There was a good shipping demand and prices took a big jump, being 25¢ to 40¢ higher than the Thursday trade and the highest in several months. The top was up to \$9.50 and the bulk of the desirable offerings went at \$9.35. These prices were much better than those being paid on other markets, as in Chicago the top was but \$9.40, while in Kansas City and St. Joseph the best price was \$8.75 and in Omaha \$8.50.

The bulk of the hogs here sold comparatively as well or better than the top. Packers were still doing but little business, as they were unwilling to pay the prices shippers and city butchers were giving. The trade was irregular, but all good offerings were higher. Poor grade pigs and lights were not so very much better, but still were higher.

A buyer said that he was offered hogs Thursday at \$8.25 and was begged to take them and that Friday he purchased the very same hogs at \$8.85 and was glad to get them. The top Thursday was \$9.10. On Tuesday of this week the top was down \$8.60, and only one load sold that day above \$8.50. This showed the market to be not very far from \$1 higher than then.

Most of the good hogs went at \$9.25 and higher, while mixed and plain grades went at \$8.90 to \$9.25 and the rough packers \$7.75 to \$8.00. Best offerings of pigs and lights sold at \$8.50 to \$9.35, fair \$7.90 to \$8.40 and the common ones \$6.50 to \$7.75. All offerings sold readily and at the close buyers were still looking for hogs, as they had not purchased even half the number that they wanted.

SHEEP—There was but a small supply which sold promptly at steady prices, with a few being slightly higher. Values of sheep are not specially higher than they were at the first of the week or the close of last week, but there has been a gain of 25c on all lambs, especially the good kinds, owing to the light supply and the strong demand.

Most of the good lambs sold at \$8 to \$8.25, packers paying the latter price for the first time in several weeks. Fair to medium grade lambs sold at \$7.25 to \$7.85 and the culls and others that were but little or no better than culls \$5 to \$7, most of them at \$6.25 to \$6.50.

What sheep went to the slaughterers all brought \$4.50, with a few extra heavy plain ewes and some choppers that sold at \$4. Best stockers went at \$3.25 to \$3.85, plain stockers at \$2.50 to \$3.00, bucks at \$3.25, breeding ewes if good at \$5 to \$5.35 and the plain kinds at \$4.25 to \$4.50.

HORSES—With the exception of a handful of city and out-of-town purchasers, there were not many purchasers on hand, and those who were here did not seem to be overly anxious to take large numbers, and they were

only looking for single heads worth the money and ready to go right into city work. These kinds were well broke and sound and the sales negotiated were on a steady basis with the usual week-end transient trade.

MULES—There was a light trade this week for miners and big mules, but nothing out of the ordinary was evident in this trade this week. The wary condition of Europe may demand the mule after the mobilization of their armies, but as yet there has been no signs of a call from these countries.

HAS YOUR WHEAT BEEN INFESTED WITH THE HESSIAN FLY?

Farmers Invited to Co-operate in Destruction of Pest That Is Liable to Cause Considerable Damage to Crops This Fall

"Has your wheat been infested by the Hessian fly this season?" is a question that the United States Department of Agriculture is now asking farmers. The information is desired that there may be general co-operation between all concerned in reducing the devastations of the fly. There is every indication that the pest will be unusually troublesome to the crop this fall.

Every wheat grower in the country who suspects that his crop has been infested is requested to send his name to the department's bureau of entomology at Washington, D. C., with a request for a question blank. The questions to be answered are merely as to whether the wheat grower's crop was infested at certain seasons. The farmer will then be asked to forward some of the infested wheat plants for examination, postage to be paid by the government. He will also be asked to give his name, address, and the nearest railway station.

The department is co-operating with various state experiment stations in this campaign against the Hessian fly, and in some cases the infested straw will be sent by the farmer to local stations for examination. The wheat grower can learn just where his sample of straw is to be sent when he sends his name to the department, indicating his willingness to send the sample. The department encourages the sender not to be afraid to forward too much of the straw, even though it has to be sent by parcel post. The upper part of the straw need not be sent, but enough above the ground should be included to get the insect in what is known as the "flaxseed" stage when the larva is incased in a hard, brown skin and somewhat resembles a flax seed. The insects will remain for a considerable time in the

"flaxseed" state during a drouth and will only emerge after rains have moistened the soil. Dry weather in the late summer tends to keep the insect in that stage, which is a fact of special importance in the North where the wheat must be sown early enough to enable the plants to stand the winter.

Probably no other insect causes more damage to the wheat crop in the United States than the Hessian fly, although there are certain years when the chinch bug exceeds the fly in its devastations. During the seasons when the fly is especially abundant hundreds of thousands of acres of wheat may be either totally destroyed or so badly injured as to reduce the yield 50 to 75 per cent. The monetary losses run far up into the millions.

A number of years ago there was in Kansas general co-operation between grain dealers, millers and farmers to restrict the ravages of this dangerous insect. According to their own estimate, over a million dollars were saved by prompt action and thorough measures. This year the department hopes to secure general co-operation throughout the country in combating the pest. There are indications that its ravages may be severe. Already in Iowa and Oklahoma there have been threatening outbreaks of the insect.

Not only are federal and state organizations of the government co-operating in this campaign but others such as the National Miller's Federation are working to secure better control over the Hessian fly. The individual wheat grower is asked to send his samples of infested straw before the middle of September, and sooner if possible, as after that the fly will have hatched and have entered into the wheat.

Late sowing of the seed and burning of the stubble when not seeded to grass or clover are the only measures known to date that are effective in controlling the Hessian fly—that is, for winter wheat growing sections. In the spring wheat sections, late seeding will not apply. On the contrary, the earlier it is sown in the spring the less it seems to suffer from this pest.

A more detailed explanation of late sowing for winter wheat to avoid attack by the Hessian fly will be given in a subsequent article. The present article is merely an invitation to the wheat grower to help the department in its campaign. The post card to be forwarded the farmer contains enlarged illustrations of the fly in its adult and also its "flaxseed" state.

Nails will drive into hard wood easier if the points are first thrust into a bar of soap.

The growing pest of weeds will force corn-belt farmers to keep more sheep. They will do more than any other agency to destroy noxious weeds and give our farms a neat and trim appearance. Sheep will clean up the stubble fields, eradicate unsightly fence rows and roadsides, encourage the growth of better pasture grasses, pick out the ragweeds from our fields of blue grass, and pay us for the privilege. Surely the corn-belt needs more sheep.

Knight of Strathmore 2:05 1/4, knocked Cedar Valley Circuit track records galley-west-and-bias. At Jefferson he set it away up on the top shelf labeled 2:06 1/4. At Newton he left a mark of 2:07 1/4.

The Mitchell Line for 1915

Mitchell Light Four—two and five passengers—4 cylinders—35 horse power—116 inch wheel base—34x4 tires \$1,250
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The Pig Pen

BREEDING ADVICE WANTED.

Editor Rural World: Would be glad to have your advice on a breeding problem. I have a registered male Hampshire hog one year old. I bred him to six grade sows and the pigs are fine, extra good. Over half of these pigs are belted, strong as little lions. From these six sows I have 33 pigs. I want to make brood sows out of 15 of these females. I have a high regard for this boar as a breeder. Would you breed these 15 daughters of his to him or buy another male?

I am raising Hampshires for market only. The six sows we grade Poland-China from sows of large litters. Please state who bought Syombleer #114 and how much did he sell for? Monticello, Ark. C. J. KEMP.

THE BEST BREEDS THE CHEAPEST

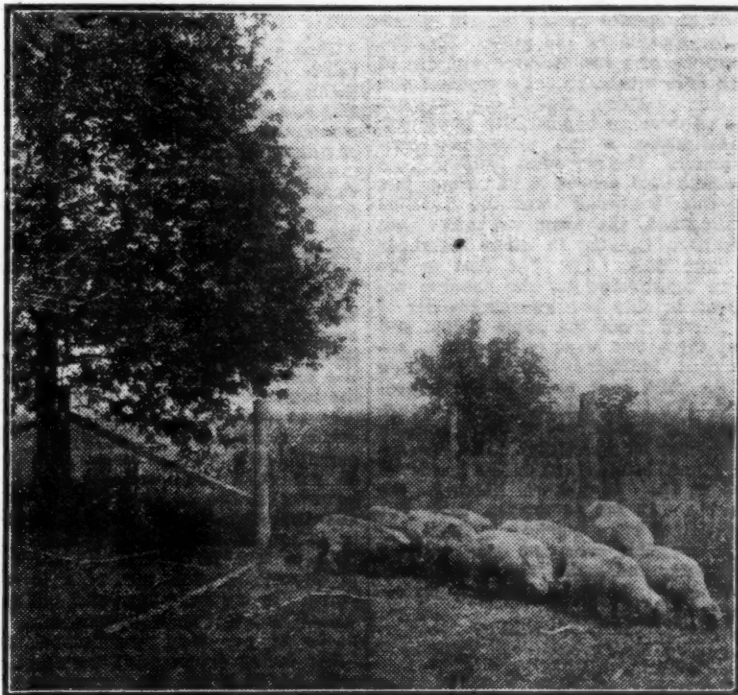
Editor Rural World: You will find enclosed my check for renewal of my subscription, and as I know you are interested in any really great animals that are brought to Missouri I send you picture of my great Berkshire boar Robbhood 20th that I have bought of Mr. G. W. Berry of Topeka, Kans.

I honestly believe this to be one of the greatest boars in the state and I know that there has never been a better one unloaded at my home town of Sweet Springs.

Robbhood 20th is a boar with a national reputation, having won first at the great American Royal, 1913, and same at Topeka and Hutchinson, Kans., he now has pigs in 30 states and is not only a premium winner himself, but the sire of winners, being the sire of first premium winning under six month boar at the New York state fair last year, my first litters from this boar will begin to farrow this week. I bought this hog very cheap, only paying \$150 for him at Topeka, and while he costs more money than any boar I ever used, I still think him the cheapest hog I ever owned, I refused \$150 for the seven first choice out of my fall litters, I did this for the reason that while I would not ask this much for this number of pigs, yet I would not let any man "pick" my herd until I get to select the top for my own use, as I might have a pig or two that I would not care to part with at any price, and I think that every breeder owes it to himself and to his patrons to keep his foundation stock up to the very highest possible standard that his means will permit, I have had a nice trade on these big-boned, long-bodied fellows, that carry the celebrated Berkshire "hams and bacon," but as I don't want to make your "mouth water," I will say nothing more about those country cured Berkshire hams, only to add that some of my best customers, are men who raised other breeds, but failed to kill hogs enough for home use, and when they got to wanting a good ham for some special reason, I can usually "spare" one at 30 cents per pound, and all I have to do is to sell one ham to a good hog man, then the next call is for some cull barrows the next winter to kill. These also bring a little premium over the ordinary hog price, and when he kills a Berkshire and cures it himself and learns that it is not all in the way it is cured, but that a large part of the credit should be given to the breed, I have a customer for some bred gilts, as this party will want to be sure and not lose out on Berkshire meat for his table, and I do not have culls enough to "go around," as I like the taste of those hams myself and try to load my smokehouse pretty well. I also sugar cure the "jowl" and believe me, I have call for it all and do not have to take it to town. I sold something over \$1,100 worth of breeding stuff from December 1 to June 1 and expect to sell more than this amount by next December.

I have worked hard and built up a very satisfactory home trade, over \$100 worth of the above amount going to parties living close enough to me to come with their wagon and make their own selections. I am very proud of

my home trade, as it is the experience of most breeders that they have to depend on the shipping trade for their business, but I started in this business with a determination to sell to the people who know me, believing that a man who cannot sell to his friends should not ask strangers to patronize him. When any breeder cannot sell to his neighbors, he should take a careful invoice of himself and his herd, and not blame his neighbors. Don't say they are "fools" for raising some other breed or sending off for your breed, but roll up your sleeves and say you will produce a better hog than they are and a better hog than they can get on a mail order for the same money, and if you do this and can not get them to come see your stock, hold a public sale, once a year, there they will take them at some price, and as soon as they are convinced of the superior quality of your herd you will find competition enough at the ring side to bring you a good profit. I would be glad to see the farmers and breeders discuss the serum proposition in the Rural World; it is one paper that the farmer can express his views in and his article not go to the wastebasket for the reason that it hits some pet advertiser a little hard. If we hog breeders don't "look a leetle out" we are going to find ourselves facing some rotten legislation that will make interstate shipment of breeding stock an unpleasant as well as unprofitable



Sheep Turn Weeds Into Money.

business. My honest opinion is that we are paying pretty high for some of this dope, but we are doing a kindly act in furnishing employment for an army of young fellows that are trying to work their way through school as well as a bunch of young vets who probably would never have practice enough to keep the wolf from their doors if put out on their own resources and had to depend on a general practice. "Howl" if you want to, I am not done yet.

BEN T. PRIGMORE.

Poultry manure is the best kind of garden fertilizer. It will be better and the poultry houses cleaner if two or three inches of dry earth are kept on the dropping board or on the ground under the roosts if there is no dropping board. Rake the earth over every day and replace with fresh earth every two or three weeks. Puts a stop to bad odors and when the manure is applied to the garden it can be scattered more evenly than if it is wet and in chunks.

Mr. J. P. Vißering of Alton, Ill., writes: "I have bred the Poland-China hog for a big-bone, immense-size and high-quality for nearly 35 years. This is why my hogs have appealed strongly to those successful stock men who demand quality and who are willing to waive the price in order to obtain it. It is better to buy good hogs than to wish you had. I offer today spring pigs and some extra good gilts bred to big-prospect boars."

The Shepherd

STARTING WITH SHEEP.

In starting into sheep raising the most important thing is to decide what plan can best be followed. The available feed and care and the selling outlets will determine this. If pasturage is sparse, feed expensive, and marketing arrangements poor, wool will need to be the first consideration. If there is a good market for winter lambs and the feed and care that can be given are such as are needed, then the ability of the ewes to get in lamb in the spring and the mutton qualities are the important things to look for in the breeding stock. If it is desired to have lambs come early and to feed them to be sold before the time stomach worms become troublesome, the choice would not fall upon the same breed that would fit in if there was a better chance to keep the lambs on clean pastures and they were expected to take care of themselves more largely through their first summer, says American Cultivator.

It is not to be expected that all farmers in a county will select the same breed of sheep. Some may wish to follow plans that differ from the ones favored by other farmers. However, there are many advantages that

Spring Pigs & Bred Gilts of the biggest type & highest quality. Also Angus Cattle. J. P. Vißering, Box 9, Alton, Ill.

YOU CAN PUT A
BONITA FARM SILO
ON YOUR FARM FOR
ONE-THIRD THE COST
Tested four years and fully guaranteed. Act promptly.
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Top
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Made to Your Individual Measure
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Workmanship, Fit and Quality

Greatest clothing offer of the season—to advertise the famous Reliable tailored-to-measure clothes. Cut in latest style, The Reliable Peg Trousers are the cleanest, neatest, most graceful pants made by any tailoring house in the country. Sixty-two beautiful cloth samples sent post free to choose from.

AGENTS WANTED
A "Live Wire" wanted in every town in the country to take orders for the famous Reliable made-to-measure clothes. Our agents make big money taking orders in their spare time. No experience, no capital needed.

Magnificent Outfit FREE
Write for our magnificent free outfit, also include the latest ever getting out. Contains nobby cloth samples, elegant colored fashion plates, tape measure, order blanks, cardstock, stationery, advertising matter, everything necessary to start you in a big money making business of your own. This is the greatest tailoring offer of the season. Be convinced.

The Reliable Tailoring Co., Dept. 2656 Chicago

raising sheep. The most dreaded of these is the stomach worm. This worm is widely distributed and in certain stages of its life it is very resistant to cold or dry weather. The stomach worm reaches maturity and lays eggs only in the stomach. The eggs pass out with the intestinal contents and begin hatching within a few days after they are dropped, if climate conditions are favorable. Dry weather or severe cold will destroy the eggs and prevent them from hatching.

After hatching, the young worm crawls upon a blade of grass while it is wet with dew or rain. The worm then encloses itself in a membranous sac, and remains attached to the grass. In this condition it can remain uninjured by cold or drought much longer. If the grass is eaten the encysted worm reaches the stomach of the browsing sheep, where it soon matures. It injures the sheep by robbing it of certain foodstuffs, by sucking blood, by giving off certain poisons that injure the red blood cells, and by the irritation caused as it clings to the stomach wall by the aid of sharp teeth. Lambs are more susceptible than older sheep probably because of the fact that the older sheep have become accustomed to the presence of the worms.

In the spring soon after the lambing period the old sheep should all receive a one or two-ounce dose of gasoline, followed by a small dose of epsom salts. They should then be turned on a worm-free pasture, if possible. In July the entire herd, including the lambs should be treated with gasoline and turned into a new pasture. This treatment should be repeated in November, when the flock should again be removed to new pastures. Pasture rotation combined with drugs that are injurious to the worms is the most practical method of successfully combating this worm. At University Farm pasture rotation has been practiced so successfully that few losses have occurred from the effects of this worm.

The teacher wanted some plums in order to give an object lesson during school hours, and, calling one of the small boys, she gave him sixpence, and dispatched him to the fruit shop at the corner. "Before you buy the plums, Willie," she cautioned, "you had better pinch one or two to make sure they are ripe." Little Willie flitted away. Soon he came back and smilingly put the bag on the teacher's desk. "Oh, thank you, Willie," said the teacher. "Did you pinch one or two as I told you to do?" "Did I?" was the response. "I pinched the whole bagful, and here's your sixpence."—London Opinion.

STOMACH WORMS IN SHEEP.

During hot weather sheep need more careful attention than during the winter months and every sheep raiser should be on the lookout for worms in sheep at this time. W. L. Boyd, assistant veterinarian at the Minnesota College of Agriculture, gives the following pointers on the worm and treatment:

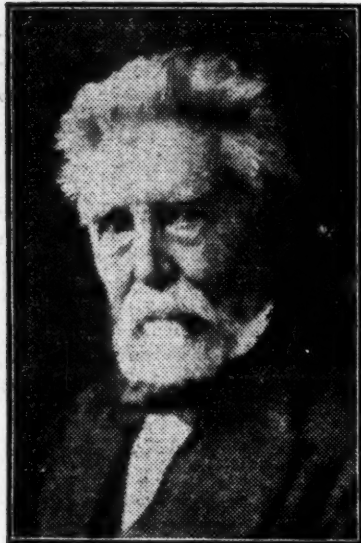
Sheep suffer little from tuberculosis and other infective diseases, but they often become infested with certain blood-sucking parasites or worms which have become rather a serious obstacle to those who are interested in

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Norman J. Colman,
First U. S. Secretary of Agriculture.

COLMAN'S RURAL WORLD was established in 1848 by Norman J. Colman, who later became the first United States Secretary of Agriculture. As a champion of advanced agriculture this journal has attracted nation-wide support, and is today held in highest regard by thousands of intelligent and discriminating readers.

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With the wonderful crops this year all over the country, it is no wonder that the words of Horace Greeley are again being quoted: "Go west, young man."

Co-operation is essential among farmers. Every successful business is furthered by co-operation. It is the word that spells success for the farmer in buying and selling.

The dogs of war are now unchained in Europe and no one will venture a guess as to where it will stop. With modern death-dealing implements we can look forward to a fearful loss of life and limb and the destruction of countless millions of property. There is one consolation in all this—that it will be the last great war.

The latest estimates of the Agricultural Department regarding the crops is even more encouraging than any previous report. All records are broken, and with this nation left to supply all Europe with bread and meat, the outlook for the American producer is brighter than ever before in our history.

BLUE MILK.

Although blue milk is referred to in American scientific literature it seems to belong among the rarities in this country; whereas serious outbreaks of it have occurred in Europe, and there

its appearance seems to have been of considerable practical importance. Blue milk is ordinarily understood to be due to the production of a colored pigment in the fluid as the result of the development of special micro-organisms therein. This unusual manifestation in milk was early observed and reported; but Steinhof, who was able in 1838 to cause its disappearance by the use of disinfectants, was apparently the first to recognize the presence of an infectious material. The well-known bacteriologist Hueppe was the first to obtain a blue-milk organism in pure culture, in 1884, so that evidently the investigation of the subject goes back to the early days of bacteriology when this modern science was still in the formative period. There is a possible ground for misunderstanding as to the nature of the phenomenon. According to some, milk may have an abnormal blue appearance due to other causes than the growth of micro-organisms therein. We are told that milk which had been allowed to stand in iron dishes for several hours had a peculiar bluish-gray color, indicating the presence of iron in solution. A number of investigators have maintained that the consumption of certain plants by milk-producing animals may result in an abnormal blue color in the milk secreted, but the data along this line are more or less conflicting. There seems to be no doubt, however, that the abnormal appearance of a blue color in milk is, in the great majority of cases, caused by the growth of micro-organisms in the milk. The appearance of a few isolated samples of blue milk which recently reached one of our western experiment stations has afforded an opportunity for a new investigation of this uncommon phenomenon. The organism isolated from the milk and proved to be responsible for this "outbreak" was the *Bacillus cyanogenes*, the same organism that has been isolated in other instances of blue milk. The fact that in the Iowa manifestations the trouble occurred in only two households out of 18 served from the same dairy, and that these two were quite closely associated, indicates that the infection of the milk took place in the household. This explanation is also suggested by the failure of the blue milk to appear at the dairy farm, except in a pan brought from the home of one of the customers having the trouble. As far as known, says The Journal of the American Medical Association, this organism is entirely harmless, and milk which is turned blue by it is objectionable only on account of its color.

SAN FRANCISCO IN 1915.

The American Medical Association will hold its next annual session in San Francisco. There is a peculiar appropriateness, says the Journal of the American Medical Association, in meeting next year in connection with the great exposition which is to celebrate the completion of the Panama Canal. While many other organizations and societies will doubtless hold their meetings in San Francisco or its vicinity during 1915, none of them is so directly connected with the exposition and the achievement which it celebrates. Great as were the achievements of the engineers and administrators in rendering possible the completion of the canal, the decisive factor which made its construction possible was the control and practical extermination of infectious diseases. This is the only essential factor in the problem which the French engineers under de Lesseps were unable to master and which the United States under Goethals and Gorgas were able to carry to triumphant solution. The French were not lacking in engineering skill or administrative ability. They had ample equipment, splendid machinery and carefully laid plans, as well as personal determination and endurance; but their laborers died from tropical diseases faster than they could be brought in and set to work. The price exacted in human lives was too great to be paid. In the years which intervened between the collapse of the French efforts and the occupation of the Canal Zone by the United States, much progress had been made in our knowledge of preventable diseases. This, however, would have been of little use had not

the army and navy medical services and the United States Public Health Service been able to furnish trained men who were able to apply the newly acquired knowledge in a practical way and to render this tropical jungle a more healthful place of residence and labor than any of our large American cities. The canal has not merely been completed; it has been completed with a smaller toll of lives than would probably have been exacted from any similar undertaking within our own boundaries, but under different sanitary supervision. When the American Medical Association meets in San Francisco, it can with perfect truth say to the country and the world, "We have a right to meet at this time and in this place because we represent the profession which made possible the construction of the canal which this exposition commemorates." As a commercial undertaking, the Isthmian Canal will doubtless be worth many times over the \$300,000,000 which it was estimated that it would cost; but as a triumphant demonstration of the possibility of modern sanitation it is worth far more than any value which mere money can express. The San Francisco exposition will be a celebration of the most striking achievement of scientific medicine quite as much as a recognition of the successful completion of the greatest engineering undertaking ever conceived.

GOOD ROADS AS CROP PRODUCERS

That an improved road will increase vastly the productiveness of the area through which it runs has now been satisfactorily demonstrated by studies conducted by the United States Department of Agriculture in Virginia. Conditions in Spotsylvania county were investigated with particular care, the results have proved surprising. In 1909 the county voted \$100,000 to improve 40 miles of roads. Two years after the completion of this work the railroad took away in 12 months from Fredericksburg, the county seat, 71,000 tons of agricultural and forest products hauled over the highways to that town. Before the improvement of the roads this total was only 49,000 tons annually; in other words, the quantity of the county's produce had risen more than 45 per cent. Still more interesting, however, is the increase shown in the quantity of the dairy products. In 1909 these amounted to 114,815 pounds, in 1911 to 273,028 pounds, an increase of practically 140 per cent in two years. In the same time shipments of wheat had increased 59 per cent, tobacco 31 per cent, and lumber and other forest products 48 per cent.

In addition to this increase in quality the cost of hauling each ton of produce was materially reduced. In other words, the farmers not only produce more, but produce more cheaply, for the cost of transportation to market is of course an important factor in the cost of production. From this point of view, it is estimated that the \$100,000 spent in improving the roads in Spotsylvania county saved the farmers of that county \$41,000 a year.

In the past two years the traffic studies of the federal experts show that approximately an average of 65,000 tons of outgoing products were hauled over the improved roads in the county an average distance of 8 miles, or a total of 520,000 "ton-miles." Before the roads were improved it was estimated that the average cost of hauling was 20 cents a "ton-mile;" after the improvement this fell to 12 cents a "ton-mile," or a saving of 8 cents. A saving of 8 cents per mile on 520,000 "ton-miles" is \$41,000 a year. The county's investment of \$100,000 in other words returns a dividend of 40 per cent annually.

Because this saving, in cases of this character, does not take the form of cash put directly into the farmer's pocket there is a widespread tendency to believe that it is fictitious profit, while as a matter of fact it is just as real a source of profit as an increase in the price of wheat.

In Dinwiddie county, Va., for example, where peanuts are one of the staple crops, the average load for two mules on a main road was about 1,000 pounds before the road was improved. After its improvement the average load was found to be 2,000 pounds, and

the time consumed in hauling the larger load to market was much reduced. In other words, one man with a wagon and two mules could do more than twice as much work with the improved road than with an unimproved road. This is the explanation of the extraordinary rise in the total output of agricultural products in a county with a good road system.

SOIL SURVEY OF CARROLL COUNTY, MISSOURI.

The U. S. Department of Agriculture has just issued a report on the soil survey of Carroll county, Missouri, recently made by the bureau of soils in co-operation with the University of Missouri Agricultural Experiment Station. The report devotes 34 printed pages to a discussion of the 18 different soils found in the county, and also contains a large colored map, showing their extent and location. This map gives also the location of schools, churches, public roads, railroads and water courses.

According to the report the climate is moderate, although marked by pronounced extremes in both temperature and rainfall. It is a humid region, with an average rainfall of about 38 inches. Its growing season of 160 days is sufficient for all general farm crops.

Agriculture is practically the only industry in the county. Large quantities of corn and wheat are grown, most of the former being fed in the county. A large part of the latter is shipped to outside markets. Clover is grown over the whole county. Oats, alfalfa, rye and millet are secondary crops. Bluegrass grows luxuriantly. Truck farming is developing rapidly, the principal crops now being tomatoes, potatoes, onions and melons.

The report devotes considerable space to the question of drainage. It states that the bottom lands of this county occupy a greater area than those of any other county in the state along the Missouri river. These lands are seldom subjected to overflows from the river. Large drainage ditches have been dug through the poorly drained parts of the bottoms and these are gradually being extended. It then discusses the Norborne, Sugartree and No. 3 drainage districts. It states that eventually that part of Moss Creek not yet dredged should be and likely will be straightened, thereby forming a very complete drainage system. The drainage already completed has reclaimed vast areas formerly of little agricultural value. The report states that much further good will undoubtedly be accomplished with the completion of ditching operations under way when the survey was made, and which it is expected would be completed by this time.

The following is a brief summary of the findings regarding the various soils of the county:

The Knox silt loam, light brown to brown in color, a true loess soil, is a productive type, but subject to serious erosion. As a safeguard against erosion the soil should never be left in a loose, uncovered condition during any period of rainy weather. It comprises a belt of country one to four miles wide along the bluff. The Knox silt loam, colluvial phase, is a colluvial wash from the loessial bluffs. It is suited to grain and truck crops. Owing to the loose, open structure and elevation above the adjacent bottom lands, it is well drained and warms up early in the spring.

The Marshall silt loam extends as a wide belt back of the Knox silt loam. It is a dark-colored productive soil, well adapted to general farm crops. In general it is fertile and highly productive, but as is the case in any large soil area, small bodies or fields occur where, generally owing to erosion favored by a system of continuous cropping to grain, the soil is thin and unproductive. Where erosion occurs, a system of rotation involving the frequent growth of legumes and the plowing under of green manure on these small areas should be of benefit.

While as a rule the subsoil of this type is considered too heavy for the practical or profitable growing of alfalfa, several small fields of thrifty looking alfalfa were observed. From present knowledge of the crop and its requirements, however, the growing of alfalfa can not be recommended for

this type as mapped in Carroll county. Fruits produce well on the type, but are not much grown except for home use.

The Marshall silt loam, terrace phase—dark brown to black loam—a loessial deposit over an old stream terrace, is a productive, highly valued soil.

The Putman silt loam, a brown to grayish-black, rolling phase, occupies a large part of the northern upland region. It is a good corn and hay soil. Stock farming is the principal industry.

The Shelby loam, brown to dark in color, is derived from glacial till, which is exposed along slopes of the upland streams and is well adapted to all general crops.

Owing to its topographic position and the sandy nature of the soil and heavy character of the subsoil, surface drainage is excessive and the runoff rapid, so that erosion is severe during times of heavy rains. Crops on the heavier areas are very seriously injured by protracted drouths.

When well farmed this type is a very productive, though easily impaired soil. Corn, oats, timothy, clover and wheat are the principal crops. Fruits produce as well on this as on the more valued upland soils. It is probable that small fruits and vegetables would prove profitable crops in some of the sandier sections.

The Mandeville silt loam, a light brown, mainly residual soil derived from sandstone and shale, with some admixture of glacial material, occurs in the northwestern part of the county. It is a productive type, and in the less rolling areas well suited to general farm crops. The chief needs of this soil are protection from erosion and the maintenance of the humus supply.

The Crawford silt loam is a strong soil, well adapted to bluegrass pasture. The Wabash and Sarpy series are alluvial soils, mainly in the Missouri river bottom.

The Wabash silt loam, colluvial phase, has been mapped along the inland stream. It is very productive, but subject to overflow.

The Wabash silty clay loam as mapped in the Missouri river bottom is well drained and productive. Along the inland streams it is poorly drained and generally left in bluegrass pastures.

The Wabash clay is a heavy black soil, with a high content of organic matter. It is very productive when drained, but is hard to handle.

The Buckner loam is a fertile, dark-colored, well-drained, soil, and is very highly prized.

Should the trucking industry ever assume importance in this county it is probable a great deal of this soil will be used for the production of such crops, owing to its fertility, earliness, excellent moisture conditions, and nearness to shipping points.

The Buckner very fine sandy loam occurs usually closely associated with the loam type, and is a fertile though not very durable soil.

The Sarpy clay is a productive heavy clay soil underlain by fine sand to compact silty clay loam.

Care must be taken not to puddle the soil by working it when too wet.

The Sarpy loam is slightly more friable than the clay type. It forms only a small area in this county.

The Sarpy very fine sandy loam is a fertile, light-colored soil, well suited to general farming and trucking. The heavy subsoil phase has about the same agricultural value as the main type.

Riverwash has been mapped along the Missouri river. It contains one or two small areas that might have been classified as meadow.

Erosion and drainage are important problems in the county. More organic matter should be incorporated in some of the thinner soils. A system of rotation including the growing of clover is generally followed.

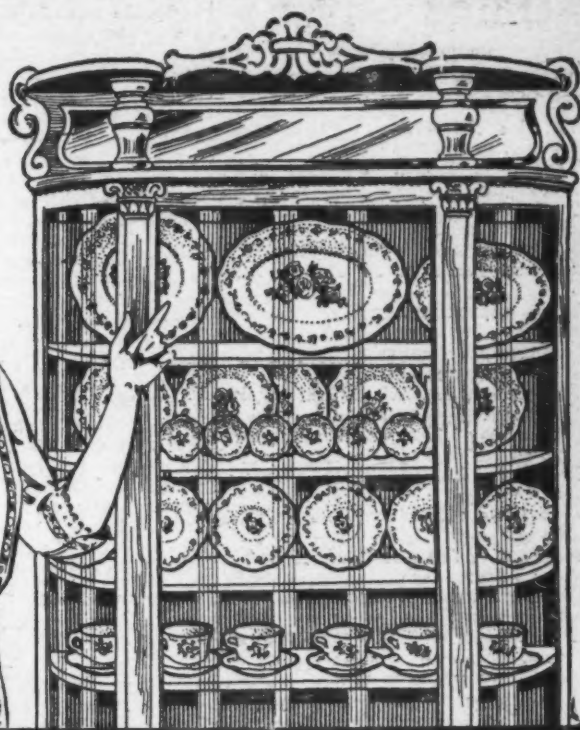
Although land is held at high prices, it yields profitable returns when properly managed.

One good dairyman says a cow will pay for enough fly dope to keep the flies off of her an entire season, in the extra milk she will give in a week when fly dope is used. So the extra milk she will give for the remaining weeks is profit. Ought to be money in a thing like that.

FREE

33 PIECE DINNER SET AND 41 EXTRA PRESENTS

74 ARTICLES ABSOLUTELY FREE



I Want to Send You This Dinner Set

Our plan for distributing these dinner sets is very, very easy. You don't have to send us a penny of your money, and the little kindness we ask of you can be done during your spare time, when you are visiting your neighbors.

Here's What You Get.

The complete set of dishes contains 33 pieces.

- 6 Dinner Plates.
- 6 Saucers.
- 6 Cups.
- 6 Butter Dishes.
- 6 Cereal or Fruit Dishes.
- 1 Large Meat Platter.
- 1 Large Cake or Bread Plate.
- 1 Deep Vegetable Dish.

Famous Rose Decoration.

The beautiful, dainty American Beauty Rose decoration is the most popular design ever offered our readers. The bright red roses and the rich green foliage stand out clear and brilliant in the center of each piece, and to make the effect even more charming a rich gold border of gold is run around the edge of each dish, thus giving the complete set an individuality and attractiveness not found in other dinner sets.

Will Last For Years.

The dishes are made of pure white ware, and are for hard usage as well as beauty. They are stronger and bigger than most dishes and with ordinary care will last for years. They will not glaze or get streaky like most dishes and the rose and gold decoration is burnt into each piece and will not wear off.

You could not wish for a more complete set of dishes than this—33 pieces.

Made by a Famous Pottery.

Any woman will be proud of our famous American Beauty Rose set which is complete and beautiful. They are for every-day usage as well as for Sundays, and are the product of the famous Owen China Company, of Minerva, Ohio. We guarantee them to be genuine Owen Chinaware.

OUR EASY OFFER

The coupon starts everything. Sign it and we will send you a large illustration in colors, showing this beautiful Dinner Set with its handsome decorations of red, green and gold.

We will also send you a sample needle case, containing 100 different needles for every purpose, and 15 darners, bodkins and large needles—a total of 115 needles.

Our Dish Plan Is So Very Easy.

When you get this handsome needle case I want you to show it to 16 of your neighbors and friends and get them to hand you 25 cents each in connection with a special offer I will tell you about when I send you your needle case. When you tell them about our great offer they will thank you for the opportunity to help you. Each person who hands you 25 cents is entitled to a complete case of these famous needles. I will send the needle cases to you so you can hand them to your friends when you tell them about our offer. In addition to the needle case each person also gets a special subscription to our big farm paper.

You Will Be Surprised.

You will be surprised how very, very easy it is to get this set of dishes. No previous experience is necessary. When you get your dinner set you will be delighted and all your friends will envy you.

It is so very easy to get this set of dishes that many of our readers earn two, three and even more sets, and sell the extra sets to their friends at a big profit. Now, if you haven't already signed the coupon below, do so before you forget about it.

Sign the coupon—it starts everything.

41 EXTRA ARTICLES FREE

Our plan is full of SURPRISES and LIGHTS for those of our friends who are willing to lend a helping hand at spare times.

The very first letter you get from us will surprise you before you open it. It will also delight you by telling all about the big 40 piece post card collection which we want to give you in addition to the dishes. We give you the 40 post cards for being prompt.

These beautiful post cards will not only please you—but they are so rare and attractive and printed in such a gorgeous array of colors that you will be delightfully surprised.

Another Present for Promptness.

And still, THAT is not all. One of the prettiest surprises of all is kept a secret until the day you get the dishes and find a pretty present that you know nothing about.

Isn't this a fascinating idea?

And what makes it more so is that we have something nice for everyone of your friends and neighbors, too. We'll tell you ALL about it as soon as we receive the coupon with your name on it.

The coupon starts the whole thing—Sign it before you forget it.

Mail This Coupon Today

Colman's Rural World,
St. Louis, Mo.

I want to get a 33 piece dinner set and the 41 extra gifts. Send me the sample needle case, picture of the dishes in color, and tell me all about your big offer.

Name

P. O.

F. D. State

Home Circle

SINCERITY.

O that I could make true each word
I say!
That every action, every lightest
thought,
That all I do in Thy dear love be
wrought;
That not a moment of a single day
From consciousness of Thee I turn
away,
Thy presence seeking as the sun is
sought,
For light, for warmth, for growth;
then truly naught
Would grieve, but loss of that inspir-
ing ray.
So should my life be service and true
song,
In blended harmony the two should
mate.
No work, no effort, could be counted
long;
For each is done, or lived, or borne
for Thee:
And if Thou shouldst accept that work
from me,
Then naught could be too little, or
too great. —Caroline Hazard.

CALIFORNIA'S INVITATION TO THE PANAMA-PACIFIC INTERNA- TIONAL EXPOSITION.

Written for the Rural World by Mrs.
Mary L. Monroe Carter.
Come to the Golden Gate by the sea;
Call for its beautiful golden key,
Fashioned so quaintly, each mark
and line,
Like pure yellow gold of forty-nine.
For Mayor Rolph and President Moore
Will welcome you all, from shore to
shore.

Hark to the trumpeter's golden call:
We welcome you one, we welcome
you all;
So come from afar, yes come from
near,
And come in the nineteen-fifteenth
year;
For Mayor Rolph and President Moore
Will welcome you all, from shore to
shore.

Come o'er the land, and waves to see
Our golden poppies and golden key,
In San Francisco, by the sea,
"Home of the brave, land of the free;"
For Mayor Rolph and President Moore
Will welcome you all, from shore to
shore.

San Francisco, June, 1914.

A DAINY GIFT.

A useful and pretty gift to make
for a friend who is about to be
married, that she might add to her
well known "dowry box" is a set
of tumbler doilies. They also make a
pretty decoration for a china closet.
To make them you need one-half a
piece of the heavy coronation cord and
part of a ball of No. 15 D. M. C. thread.
Skip one knot, take two knots, cross,
First take your braid in your hand;
take four and cross, catch them to-
gether with two single crochet stitches,
chain five and repeat. Make 21 of
these and leave one knot to which join
the other single one by sewing. Join
work of first row with slip stitch.

Second Row—Fill space with nine
single stitches and one single stitch
over single crochet of previous row.

Third Row—Chain nine and catch
with single crochet into single crochet
over braid of second row.

Fourth Row—The fourth and last
row in center is made after slip stitch-
ing third row together; chain five,
catch through center of chain two single
crochet stitches and chain three,
then two double crochets through next
loop and chain three. These chains
must be made tight in order that the
center of your piece is made firm.

Break your thread and take two of
your large loops and fasten together
between first and second knots. Chain
five and cross over to the small loop,
catching with single crochet in the
center between the knots, chain five
and catch over top loop between knots
two and three; chain five and go back
to the small loop; chain five and take
in the other side and the next large
loop between knots three and four.
Repeat to the end of the row.

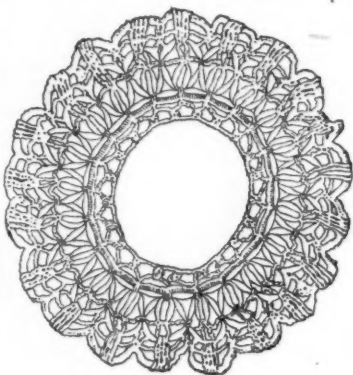
Second Row—Chain five after fast-

ening first row with slip stitch. With
a double crochet catch through first
knot, chain five, make four double
crochets through the chains of previ-
ous row; chain five make double cro-
chet through last knot; double cro-
chet through first knot of next loop;
chain five and make four double cro-
chets through chain of other row;
chain five and catch one double cro-
chet through the last knot and so on
to the end of the row.

Row Three—Chain seven, catch four
treble stitches into four double crochet
stitches of previous row, chain seven
and catch in double crochet with a single
crochet of last row.

Row Four—Fill in chain with nine
single crochets, chain two, catch
through treble stitch with single cro-
chet; chain three, catch in next treble,
chain two and catch in treble, chain
seven and catch in double crochet
with single crochet.

These can be used with three or six
small ones in a set, or you might use
three different sizes. One could be
made with one and a half pieces, the
other with one and the small one with
the half piece of braid.



A Pretty Design in Doilies.

These make a beautiful set as I
have experimented and made one my-
self only I have used the full four
pieces of braid, making three small
ones, and the two larger ones. The
linen is overhanded in after the out-
side is finished. Always be careful to
avoid having a kink in the braid when
you have made the first part as you
may get the inside finished and find
you have a twist in your work, which
cannot be fixed without ripping the
work back. One of the small ones can
be made in an hour and a half, so you
may see that it goes rapidly.

In setting in your centers a good
way to do it is to lay your piece on
the linen and draw off the center with
a lead pencil. If done that way be
sure to cut your center larger as you
must allow for the hem. Then over-
hand it in on the line you have drawn
with your pencil. This is a simple way
of inserting your center.

FIRST EXPOSITION AT SAN FRAN- CISCO.

Written for the Rural World by Mrs.
Mary L. Monroe Carter.

On August 24th, 1893, just 21 years
ago, ground was broken for the first
mid-winter exposition ever held in
San Francisco, and the first spadeful
was turned in Golden Gate park,
where, on Oct. 14th, 1911, 18 years
later, President Taft officiated for the
second and greater exposition, the
Panama-Pacific International Exposi-
tion, to be opened here Feb. 20th, 1915,
and closed Dec. 4th same year. And
before a spade had been lifted, Italy,
Germany, Austria, France, Belgium,
Switzerland, Russia and the Oriental
Companies had promised exhibits and
the international features of the fair
were assured in notes from the com-
missioners.

It will be a perfect brilliant tribute
to the world event it celebrates, and
the last American universal exposi-
tion in this generation. The work is
progressing at a rapid rate and al-
ready the exposition presents a most
imposing appearance. One of the
most striking of the buildings is the
palace of machinery, designed by
Clarence E. Ward. This is the larg-
est wooden building in the world. The
architect was influenced by his study
of old Roman thermae and baths. The
main entrance to the palace of ma-
chinery is on the west and 1800 kegs

of nails were used in erecting the
building. The elaborate color
scheme that has been arranged for the
P. P. I. Exposition by Jules Guerin,
director of color, includes not only
the decoration of the exhibition palaces
and the courts, but extends even to
the roofs and roadways of the exposi-
tion. The walls of the buildings are
finished in the grayish cream of the
Travertine marble used in Rome and
the color effects are obtained with
oriental blues, orange and dull reds,
all in pastel shades. To harmonize
with these the roadways are of deep
red, obtained through the use of red
rock, and the roofs of all the build-
ings are covered with a special roof-
ing of a dull terra cotta red that will
be pleasing and restful to the eye
and in artistic contrast to the creamy
walls. This roofing material is pre-
pared from asphaltum, asbestos and
crushed brick, the latter being pressed
into the body of the product as it
passes between rollers. The result is
weather-proof, fire-proof roofing of
beautiful coloring and devoid of glare
in the brightest sunlight.

Much of the sculpture which is to
adorn the interior of the palace of
machinery has been placed within the
gigantic structure and is attracting
many visitors to the building on Sun-
days and holidays. Like most of the
statuary which will be distributed
about the courts and palaces, this is
of heroic size and of imitation
marble. A Stirling Calder, acting
chief of sculpture of the P. P. I. Ex-
position, has completed a working
model of the figure symbolizing a star
which is to be used for adorning the
colonnade of the court of the sun and
stars. Ninety of these figures will be
distributed about the colonnade and
from them will hang a variety of
prisms made for the exposition in
Austria. When the searchlights on
the roofs of exhibit palaces are placed
on these prisms, vari-colored rays will
be sent scintillating over the court,
producing a marvelous effect. More
anon about the exposition.

No doubt but some of you circulars,
especially those in the rural districts,
would like to know something about
the climate, population, etc., of San
Francisco. And for the benefit of
those who expect to visit this city in
1915 I will repeat what I wrote you
last fall. Do not leave your warm
wraps at home, for the foggy morn-
ings and evenings with strong breezes
off the ocean chill newcomers to the
marrow, especially during the months
of June, July and August. There are
as many different kinds of climate in
California as there are counties. I
am speaking of San Francisco in par-
ticular. We have the most balmy
weather during the fall and early
spring months. The average summer
temperature is 59 degrees, average
winter temperature 51 degrees. Snow
has fallen but six times in the city's
history. The lowest temperature ever
officially recorded here was 29 above
zero. Flowers are sold in the open
air the year round at the principal
downtown street corners.

San Francisco claims 530,000 popu-
lation and is somewhat hilly, resem-
bling, as I expressed it, a very low
range of mountains. It has 360 miles
of paved streets, 315 miles of sewers,
and has more than 300 miles of street
railway lines, on many of which cars
run all night. Any part of the city
can be reached for a 5-cent fare.
Transfers are given on nearly all the
lines. There are 32 parks. Golden
Gate park contains 1,013 acres; fronts
on the Pacific Ocean. It lies directly
west of where I am at the present
writing, while to the southeast lies
beautiful Buena Vista park, which
contains 36 acres. It is a mile
around it. The most elevated point
in the park is 570 feet above sea level.
The words Buena Vista mean "Good
View." The name is most appro-
priate as from its summit can be seen
Mt. Tamalpais on the north, Mt. Ham-
ilton on the south, Mt. Diablo on the
east and away over the long sweep of
the Pacific Ocean past the Farallone
islands to the west, while below the
beautiful city of San Francisco
spreads out like a map.

Haight Street car No. 7 will land
one at the Haight Street entrance to
Buena Vista park, also a few blocks
farther west to east entrance of Gold-
en Gate park, south side of its pan-
handle, which is one block wide and

YOU NEED MEDICINE AT THIS TIME.

When nature falters and from over-
work a tired, wornout body is unable
to perform its natural functions, EL-
LA R. BERRY'S CREOLE TEA is in-
dicated and may be confidently relied
upon to stimulate the liver and by
freely taking it all the year around,
by old and young alike, Chronic Con-
stipation, Indigestion, Colds, Rheuma-
tism, Bad Complexion and Skin Dis-
eases can be relieved and overcome.
For nursing mothers, after it is
steeped, as told on each box, and for
children, there is nothing better than
ELLA R. BERRY'S CREOLE TEA in
Herb form. A little sugar can be
added to the tea and mild doses, ad-
ministered from time to time, will
keep them well and healthy. At all
drug stores, 10 cts. a box.

Complete BASEBALL Outfit
FREE
It will not cost you one cent to
own a fine baseball outfit, in-
cluding a COMPLETE SUIT,
cap, shirt, pants, belt, glove,
protector, heavy wire, padded
Mask, Catcher's Mitt or Field-
er's Glove, Junior League Ball,
Ash Bat, etc. Well made and
durable. Just order 50 packages
Gold eyed needles, sell at 10c
each, send us \$2 when collected,
get outfit FREE. Extra present
of BASEBALL CURVE if you
order now. We trust you and
take back all you cannot sell.
NATIONAL GIFT COMPANY
318 Church St., Elmira, N.Y.

THE IMPROVED MONITOR
AGENTS \$10 A DAY
MAKES ironing easy and a pleasure. Pro-
moted "The World's Best"
by over 100,000 satisfied custom-
ers. No hot stove. Easy to op-
erate. Heat regulated instantly.
Satisfaction guaranteed. High-
est in Quality, Lowest in Price.
Highly polished and nickel
plated. Quick, easy sales. Examine
rights and territory free. Write for
illustrated circular; explains
everything.
The Monitor Sash Iron Co.
446 Wayne St. Big Prairie, O.

eight or ten blocks long. It is one of
the longest continuous street car rides
in the city, as the cars start west
from Ferry Building at foot of
Market street.

The Bay of San Francisco environs
the city and is one of the largest
landlocked harbors in the world. It
is 65 miles long and from four to ten
miles wide; area about 450 square
miles. Its shore line is 231 miles,
with room for the navies of the world.
Its entrance is the Golden Gate, where
it is one mile wide at the narrowest
point. A few weeks ago, while com-
ing across the bay from Sausalito on
the north, and looking west through
the Golden Gate, a lady from the East,
who is visiting here, remarked that
she had neighbors who believed there
was truly a huge gate at the entrance
that was opened for the ocean steam-
ships to pass through. Such is not
the case. Golden Gate leading into
the bay was so named from its re-
semblance to Constantinople's Golden
Horn.

I, too, deplore the absence of let-
ters from members of the Home Circle
in the good old Rural World. And
fully realize that our kind editor did
not receive the letter I wrote last
winter on the progress of the work on
the exposition grounds, or it would
have been printed.

I am planning another visit to the
fair grounds next week, after which
I may write about the concessions and
some of the exhibits expected.

Kind Editor, I was suddenly called
away from the city before I could
finish and mail the enclosed letter for
publication.

Hastily,
MRS. M. L. M. CARTER.

P. S.—I found many copies of dear
old Rural World awaiting me here in
Alameda when I came yesterday. I
do enjoy their visits, but miss many
letters from old friends.

M. L. M. C.

Mrs. Whann, the weeping widow of
a well-known man, requested that the
words "My sorrow is greater than I
can bear" be placed upon the marble
slab of her dear departed. A few
months later the lady returned and
asked how much it would cost to
have the inscription effaced and an-
other substituted. "No need of that,
marm," replied the man, soothingly,
"you see, I left jes' enough room to
add 'alone.'"—Current Opinion.

CLASSIFIED WANT and FOR SALE DEPARTMENT

YOU CAN BUY, SELL OR EXCHANGE MOST ANYTHING IN THESE COLUMNS AT THE LOW RATE OF

One Cent a Word Each Insertion.

In this department we will insert your advertisement under a classified head for 1 cent a word per issue. Initials and numbers count as words. These little ads. are read by thousands and give results. No ad. accepted for less than 25 cents, cash to accompany order.

SMALL ADS. DO BIG THINGS.

TRY A CLASSIFIED AD.

FARM WANTED.

WANTED to rent dairy farm 160 to 200 acres, near good market. Also want to buy about fifteen high-grade Jerseys to freshen in Oct. and Nov. Chas. R. James, Oxy, Mo.

FARMS AND LANDS.

EXC. BOOK, 1,000 farms, etc. Everywhere. Honest trades. Graham Bros., Eldorado, Kas.

JUDITH BASIN farm land bargain. Write for list. A. Larson Land Co., over Bank of Fargo County, Lewistown, Mont.

FARM HOME in healthy West Fla. No frost no snow. "Facts about Florida" free. W. S. Reeve, Pensacola, Fla.

WRITE ME for prices; cheap lands, any size tracts; abundance of rain; good crops; fine grass. J. J. Lindsey, Lamesa, Texas.

LITTLE RIVER VALLEY LANDS, rich and cheap; on railroad. Robert Sessions, Winthrop, Ark.

HOMESTEADS and proved up places for sale. For information write John M. Edes, Williams, Beltrami Co., Minn.

YELLOWSTONE VALLEY LANDS—Alfalfa, sugar beet, wheat and stock ranches. Write for list. The J. A. Hardin Real Estate Co., Hysham, Mont.

FARMS—If you want a good wheat, corn and alfalfa farm write us; some for exchange. Write for list. Eastern Kansas Land Company, Jola, Kansas.

50 IMPROVED FARMS, 40 miles south Kansas City; \$40 to \$100 per acre; fine corn, wheat, oats, timothy, clover, bluegrass land. Send for lists. J. B. Wilson, Drexel, Mo.

QUICK CASH for property or business. Anything, anywhere. No agents; no commissions. Write Dept. L, Co-operative Salesman Co., Lincoln, Neb.

50 ACRES improved farm. Good spring water; 40 acres improved, also good spring water. Write for particulars. T. F. Chirano, Gravette, Ark.

50 IMPROVED FARMS, 40 miles south of Kansas City; \$40 to \$100 per acre; fine corn, wheat, oats, timothy, clover, bluegrass land. Send for lists. J. B. Wilson Co., Drexel, Mo.

FOR SALE OR TRADE—480 acres, near Tularosa, N. M.; 75 acres under cultivation; all good level land; 4 wells, pumps and engines; plenty of water; good improvements; price \$10,000. Isaac Otis, Proprietor, Tularosa, N. M.

TENANTS WANTED—We have several well-improved blackland farms for rent at Kamey. Have good school and conveniences. Large families preferred, well equipped. J. W. McKamey, Port Lavaca, Tex.

BUT LAND—Best bargains in farms, ranches, colonization tracts, town property, Texas, Okla., Ark., Missouri, New Mexico, direct from owners, no big commissions. Valuable to homeseekers and investors. State what you want to buy, sell or trade, get our plan. Free list to cash buyers. Land Buyers' Guide, McKinney, Texas.

COME to Northeastern Colorado, the best farming section in the west. You can get irrigated or table land that will double in value within the next few years. Natural home of alfalfa. One highly improved irrigated farm of 450 acres at a bargain. Write us. Sharp & Sharp, Crook, Colo.

DO YOU WANT LAND in the great wheat belt of Kansas, good for corn and other grains; also Logan Co., 160 a., 3 1/2 miles from Oakley, on Union Pacific R. R. Main line; high school; three grain elevators, electric lights; water works; all smooth, fertile soil; 3/4 a. alfalfa; 90 in crop, corn, cane, Jerusalem corn, kafir corn, 60 a. pasture; small imp. mtg. \$800.00, 137 in Cove Co., road runs between; wheat and grain in stack; all in cult.; no waste; 3 miles to grade school. Sell together or separate; \$20 per a. W. H. Rader, R. 3, box 37, Oakley, Kans.

SPECIAL BARGAIN—Small colonization tract, 1,200 acres rich, level, black land located five miles from San Benito, Cameron Co., Tex., in the famous Rio Grande Valley irrigation district. Permanent water rights. Canals and drain ditches through the land. Easy to clear. Already plotted in 40-acre tracts. Recently foreclosed by Trust Company and is now offered for limited time at a remarkably low price for quick sale. For information and price address P. O. Box 178, Houston, Tex.

FARMERS, ATTENTION—Wanted, location for seven \$150,000.00 condensed milk plants and twelve \$115,000.00 milk, flour and sugar plants. We sell no stock or bonds, nor ask for free site. Show us you have natural surroundings to develop into dairy country if milk prices are such to make it possible to do so at a profit. Send full information of your advantages, pictures of farms, publications, books, etc., to Herman R. Franzen, Ephrata, Lancaster Co., Pennsylvania.

FARMS FOR SALE—We are anxious to do business with you; have been doing a general real estate business in Texas more than twenty-five years. We are in position to give you the best service possible. We have some of the finest farms in Texas for sale, and many excellent ranches, and much unimproved lands, for sale at bargain, and we are in position to take care of you until you have paid for your home. We sell on easy terms. T. J. Cole & Co., 610 Southwestern Bldg., Dallas, Texas.

DOGS.

FOR SALE—English Shepherd pups. James Cassell, Fremont, Neb.

SABLE AND WHITE PUPPIES, 3 months, \$5.00; females 2 years old, \$10.00. All eligible to registry. J. E. Batchelder, Hunter, Okla.

BLOODHOUND PUPPIES—English, registered, pure-breds. W. N. Cavin, Mt. Holly, N. C.

FOR SALE—Extra fine fox, cat, coon and opossum hounds. Send stamp for reply. John Durham, Durant, Miss.

FOR SALE—Royally bred English Setter pups—White, black, tan, and ticked. Right age to break this season; \$25. Out of Jacobway's Prairie Lena No. 37018; by Rolla Heikes No. 18957. Field Dogs Stud Book (Chicago, Ill.) E. E. Jacobway's Kennels, Brooksville, Miss.

THOROUGHLY trained coon and opossum hounds, lots of young hounds partly trained. Fine Mississippi Sawyer pit, games, extra large India games, India game ducks. Pay \$5 each. Live mink \$1. live coons. Buy fox, skunk, squirrels. I sell trap to catch them alive. Walter Odom, Durant, Miss.

LIVE STOCK.

REGISTERED Tamworths, hogs and pigs. J. L. Jones, Okolona, Miss.

REGISTERED Berkshire hogs and pigs for sale. S. T. Majors, Mt. Olive, Miss.

NICELY MARKED GUERNSEY CALVES—either sex, \$17.50 each, crated for shipment. Edgeworth Farm, Whitewater, Wis.

SPOTTED POLAND CHINAS for sale. Five fall born, spring pigs, both sexes. Prices reasonable. R. L. Mount, Polo, Missouri.

FOR SALE—Hundred Holstein cattle, from yearlings to cows. Carload lots a specialty. Frick & Hoesby, New Glarus, Wis.

AVIRSHIRES—Choice bull calves from two to eleven months old, best of breeding. Come or write. Pioneer Home Farm, Milltown, Wis.

NATIONAL MULE FOOT HOG Record Ass'n will send you important Book of Facts free. Address Secretary National Mule Foot Association, Ada, O.

I HAVE some good Cotswold bucks for sale at prices that are right. Satisfaction guaranteed. Write your wants. Paul Woods, Carlinville, Ill.

CHOICE MULEFOOT BOARS, farrowed in April; bred by Black Prince II., 60209; pedigree furnished. Price, \$20.00 each. Geo. Sinn, Alexandria, Neb.

PERCHERON FILLIES, a match pair of high-grade yearlings, \$260; also some registered and grade Holstein cattle. A good 3-year-old registered Holstein service bull. J. M. Doughty, R. 10, Columbia, Mo.

REGISTERED Shropshires, rams and ewes, all ages, from lambs up. Of good quality and breeding for sale at farmers' prices. Also my imported herd ram. Walter Miller, Iberia, Mo., R. F. D. No. 3.

FOR SALE—A choice 4-year-old registered Guernsey bull, with advance registry ancestry and 6 bull calves, sired by him that will be ready for service this fall; also, 7 high-grade heifers. Seymour A. Merriman, Ft. Atkinson, Wis.

SCHOOLS.

LEARN AT HOME—Bookkeeping and business. Low cost. Easy terms. Positions secured. Write for free trial. Brown's Correspondence School, Dept. A, Box 507, Freeport, Illinois.

MISCELLANEOUS.

NEW FLUFF RUGS, made of old carpet; sample free. Harding Bros., Cuba, Mo.

FOR SALE—Foxes and coons, skunks, minks. Address Spring Dale Farm, Box 33, Custer, Ky.

FOR SALE CHEAP—Ohio ensilage cutter No. 11, with pipe. B. L. Rochelle, Jackson, Tennessee.

"HERB DOCTOR RECIPE BOOK" and catalog describes herbs for all diseases, worth \$ only 10c. Ind. Herb Gardens, Box 5R, Hammond, Ind.

LADIES and girls wanted to prepare lists, names and addresses; starting 25c hour; particulars, outfit 12c. Address Mahaffey's Directory, Norman, Okla., Buckville, Ark.

ALFALFA—COLORADO—IRRIGATED. Best for all stock. Buy direct. Avoid middlemen. Ask for delivered prices. Cherokee Commission Company, Bristol, Colo.

CONDITION POWDERS and livestock remedies, standard guaranteed formulas for making; information that will save you dollars; free formulas and particulars. Burton Co., Box 803, Syracuse, N. Y.

INCUBATOR TROUBLES. My secret discovery hatches every good egg. No dead shell. Took me 15 years to learn the missing link. It's an eye-opener. No appliances for sale. Information free. Dr. Hopkins, St. Francisville, Mo.

6 PER CENT MONEY, 6 PER CENT—Loans may be obtained for any purpose on acceptable Real Estate security; liberal privileges; correspondence solicited. A. O. Agency Company, 767 Gas, Electric Bldg., Denver, Colo.

AGENTS.

WILL PAY reliable woman \$250.00 for distributing 2,000 free packages Perfumed Borax Washing Powder in your town. No money required. W. Ward & Co., 214 Institute Pl., Chicago.

AGENTS WANTED to sell my quick money-making articles. No experience needed. Write today. O. G. Gibson, Russ, Mo.

POULTRY.

EGGS AND STOCK—Reds, Rocks, Wyandottes, Leghorns, Minorcas, Orpingtons. L. C. Diamond, Mankato, Minn., Box 377.

LARGE, well known egg farm, in perfect condition, completely equipped with power and labor-saving machinery. Stocked with the greatest known strain of Leghorns. Doing large profitable business. Near New York City, between two thriving towns, trolley passing entrance. Property lies on railroad. Four hundred feet of siding. Illness compels sale. Satisfactory terms to responsible buyer. James Maxwell, Findern, New Jersey.

AUTOMOBILE.

CYLINDER rebored, including piston and rings, \$7.00 to \$11.00. Sterling Engine Co., 331 S. Clinton St., Chicago, Ill.

HELP WANTED.

WANTED—Christian woman housekeeper—family of seven—permanent. Box 251. Ackerman, Mississippi.

U. S. GOVERNMENT WANTS men and women over 18, \$55 to \$150 month. Thousands appointments coming. Common education sufficient. List of positions open free. Write immediately. Franklin Institute, Dep't J 167, Rochester, N. Y.

HUSTLING man under 50 years wanted in each locality. To join this society and introduce our new membership. Part or full time—\$50.00 to \$500.00 monthly. Experience not required. Address, The I-L-U 2921, Covington, Ky.

BEES AND HONEY.

NEW EXTRACTED HONEY, two cans of 60 lbs. each, \$9.50, reduced prices on 10 can lots. J. M. Ruyts, Carlsbad, New Mexico.

ITALIAN QUEENS—Moore's strain, \$1.00 each, 6 for \$5.00, 12 for \$9.00. Ramer & Gluen, Harmony, Minn.

BEST QUALITY new clover honey, 30-lb. can, \$3.45, two or more cans, \$2.50 each. Sample 10c. Price list free. M. V. Facoy, Preston, Minn.

SEED AND NURSERY STOCK.

GINSENG RAISING, the most profitable business in the world. Less labor and more money than any other crop. Thrives in any climate. Rogers Mercantile Agency, Marshall, Michigan.

Troubled with "stinking smut" in your wheat? Treat the seed with formaldehyde and cut out this loss next year. It costs only about 5 cents an acre and saves many dollars. A pint of formaldehyde with 40 gallons of water. Spread the seed wheat out on a floor and sprinkle the mixture over it. Shovel the pile over so all of the wheat will be wet with the solution. It will have to be shoveled over often enough to prevent heating while it is partly drying. And of course, the drill will have to be set to allow for the larger size of the wheat grains due to swelling.

A mash made of butter milk and ground corn is fine for fattening fowls. The buttermilk keeps the appetite good and that means more fat in less time.

PATTERNS FOR RURAL WORLD READERS.

In ordering patterns for Waist, give bust measure only; for Skirts, give waist measure only; for children give age only; while for patterns for Aprons say, large, small or medium.

9263. Ladies' Caps for Motoring, Traveling, Theater, Etc.

It requires 1 1/4 yard of 27-inch material for No. 1 and 3/4 yard for No. 2 and No. 3.

1020. Girls' Dress. Cut in four sizes: 4, 6, 8 and 10 years. It requires 3 yards of 44-inch material for a 6 year size.

1000—9995. Ladies' Costume. Waist 1000 is cut in six sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 9995 is cut in six sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 6 yards of 40-inch material for a 36-inch size, for the entire dress. Two separate patterns, 10c for each pattern. The skirt measures 1 1/3 yard at the lower edge.

9994. Ladies' "Over All" Apron. Cut in three sizes: Small, medium and large. It requires 4 1/2 yards of 36-inch material for a medium size.

1002 Ladies' House Dress. Cut in six sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 6 yards of 36-inch material for a 36-inch size. The skirt measures 1 1/2 yards at lower edge.

9996. Costume for Girls and Misses. Cut in four sizes: 14, 16, 17 and 18 years. It requires 4 1/2 yards of 44-inch material for a 16-year size. The skirt measures about 1 1/4 yard at its lower edge.

1009. Child's Rompers. Cut in five sizes: 1, 2, 3, 4 and 5 years. It requires 2 1/2 yards of 36-inch material for a 2-year size.

9845. Boys' Russian Suit With Knickerbockers. Cut in four sizes: 3, 4, 5 and 6 years. It requires 3 1/2 yards of 36-inch material for a 5-year size.

These patterns will be sent to RURAL WORLD subscribers for 10 cents each (silver or stamps).

If you want more than one pattern, send 10 cents for each additional pattern desired.

Fill out this coupon and send it to COLMAN'S RURAL WORLD, 718 Lucas Ave., St. Louis, Mo.:

Pattern No. Size. Years

Bust. in. Waist. in.

Name

Address



Horseman

Dick McMahon's good young trotter, King Clansman, shifted his previously-gained record to a very attractive notch when he trotted a mile in 2:09 1/4.

Goshen, N. Y., announces a \$2,000 purse for trotters to race under the saddle. And doesn't that sound like old times?

Entries at Council Grove, Kansas, closed July 1st. Secretary Warner claims it is the biggest and best list ever secured at that place and is optimistic concerning prospects for the coming meeting.

Here is the 2:10 list up to date for 1914: Belwin (4) 2:06 3/4; Siena 2:08 3/4; King Clansman 2:09 1/4; Lord Brussels (4) 2:09 1/2. Their sires in order are as follows: McKinney, Peter the Great, The Clansman and Axworthy 2:15 1/2.

The bay horse, Dick Porter, won the 2:30 pace in attractive style at the recent Haverhill, Mass., meeting. He started a green horse, beat a big field, doing his three heats in 2:17 1/2, 2:16 1/4, 2:16 1/4. He is by Direct's Star.

It looks like Expedition might get a new performer most any old time in the bay horse, Frayola. At the Fourth of July matinee held at Sun Prairie, Wis., he won the affair for 2:19 pacers, half-mile heats, time 1:06 1/4, 1:07, 1:07 1/4.

Charley Boutier is located at the Manchester, Iowa, track with a number in training, some of which may get to the starter later on. The track at that point has been put in first-class condition by the local association and will be kept so throughout the season.

Mokover Girl, a daughter of Mokover, won first money in the 2:25 pace at Cranwood, Ohio, after a scorching battle of six heats. She wears a record of 2:17 1/2, but as she went to the races without a "winrace" in her trunk was allowed to start in the 25 class.

John Seeley and his good chestnut pacer, Charley C., have come up from the Sunflower state and started their bread-winning campaign in the right way. At the recent meeting in Monroe, Mich., they headed the summary in the 2:14 pace, winning in one, two, three order, all three heats in the same notch, 2:12 1/4.

The Fourth of July meeting at Kearney, Neb., brought a new standard performer to Sorrento Todd 2:11, in the three-year-old trotter, Avoca Todd, that won the event for three-year-olds, best time 2:26 1/4. This colt is owned by Matt Robinson, Avoca, Iowa, who has owned him since his weanling days.

Certainly they were given their money's worth of sport the third day of racing at Cranwood, Ohio, recently. Seventeen heats raced in three events. The 2:21 pace and the 2:15 trot each required six heats to pick the winner of first money, and the 2:22 trot went to five heats ere any one horse could claim the necessary three.

The two-year-old colt, Azoff Pasha, owned by C. D. Hart, Clinton, Iowa, took a breeders' record at Libertyville, trotting a mile in rather spectacular style in 2:23 3/4. He is by Azoff 2:14 1/4, the first trotter by that sire to enter the list. Azo, a young racer sired by the same horse, had a time record of 2:29 1/4, and during the meeting reduced it to 2:20.

WORKING OF THE WINRACE RECORD RULE.

Some time since we commented on the fact that the lists of entries in the early closing events indicated that the adoption of the winrace rule had the effect of bringing out for competition many horses that otherwise possibly would not start, thus increasing the fields in these events.

Since the opening of the racing sea-

son in this section we have observed that this rule has had the effect of bettering the fields in the class events also, and we know of several races in which good fields started and furnished good contests that would have failed to fill but for the adoption of the winrace rule. Thus far we have had the pleasure of being present at four race meetings and have seen another effect of the rule that is worthy of comment.

Every since we have followed the harness horse we have noted what a small number of drivers seem to desire to win at the early race meetings and have on many occasions at betless meetings, where no other money than the purse was in sight, been certain that the winner could have been defeated by several of the field that failed to show in front. There being no possible betting combination, such results looked very odd and naturally we have quietly investigated on some such occasions.

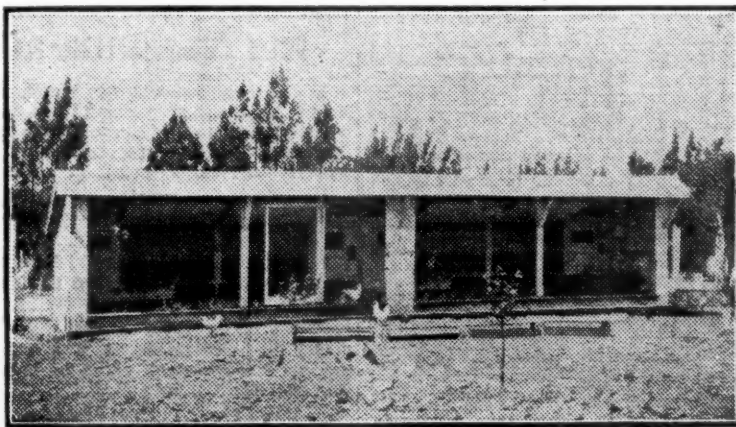
Almost invariably the trainer would state that he would have tried, but was afraid that he would get his horse a record and then fail to win the necessary heats to get the big end of the purse, as he did not think him up to a race; that if he had been sure he could have won he would have driven for the race without any regard for the record he might take. Such an explanation ceases to be a valid one under the new winrace rule and

ing an old Indian and two boys on the left bank, we came to their camp, where four families were occupying tents. Never had I seen Indians in the north that were of such healthy and vigorous appearance. As I took the horse off the boat all started to run, and their dogs, which were tied near the tents, became greatly excited and struggled against their chains to attack him. None of the Indians of the upper Pelly River ever before had seen a horse.

On the next day the experience was repeated at a second camp: As the Vidette rounded the curve into Ross River and made fast, I gazed from the deck at the multitude of Indians, men, women and children, all assembled on the bank and nervously rushing about. When the gang-plank was put out, I suddenly rode Danger, the horse, to the shore and approached the Indians on a trot, while men, women and children were fleeing in all directions, and shouting in fright.

My progress was suddenly checked, however, for at once a dozen or more dogs rushed at the horse, howling and snapping. If the trappers had not quickly beaten them off, the horse surely would have been disabled. News of the wonderful animal was immediately carried ahead.

Many Indians had come to our camp for the purpose of seeing the horse, which aroused intense interest among them. One morning three ap-



Fresh Air Means Fresh Eggs.

thus one of the old and time-honored excuses goes to the discard.

Relieved of the fear of securing a record with no money in return we have seen a number of drivers try for races this year who frankly told us that they did not believe they were ready, but since under the new rule a losing heat would not be a bar, they were going to do their best. The result has been that events have been split heat affairs in many cases and the public have been treated to interesting and thrilling contests, while in several instances drivers who thought their horses were not ready, have been able to pull down first money. It never looked good in the past to see so many drivers sitting quiet with their charges and making no effort to win, yet it must be confessed that it ap-peared very early and watched us throw the pack on Danger. So great was their astonishment to see him walk off with a pack of 200 pounds that they followed us for three miles.—Our Dumb Animals.

peared very early and watched us throw the pack on Danger. So great was their astonishment to see him walk off with a pack of 200 pounds that they followed us for three miles.—Our Dumb Animals.

INTERESTING LETTER FROM DELAWARE.

Editor Rural World: Delaware is having a fairly prosperous year in agriculture, with a few unfavorable streaks. Dry weather reduced the berry crop from 20,000,000 quarts to 12,000,000 quarts, but prices were good. We have two railroad stations in Sussex county, each of which ships from 400 to 500 refrigerator cars of strawberries in a season. This county, Sussex produces more berries than any other county in the United States. Besides those shipped, many were preserved or converted into fruit juice and other products, one man putting up probably 3,000,000 quarts, using in the

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process nearly 1,500,000 pounds of granulated sugar.

The production of early white potatoes, cantaloupes, watermelons, early tomatoes and other market gardening crops is increasing. The Delaware Peninsula is becoming the kitchen garden of the 15,000,000 or 20,000,000 of people in the cities on the Atlantic coast.

Delaware is becoming as famous for apples as it ever was for peaches. We had a big crop in 1912, a much smaller crop last year, and a fair crop this year, the early apples now going to market in great quantities. We shall ship about 1,000 carloads. When the trees now planted come into bearing we shall ship two or three thousand carloads, and new plantings are increasing every year. The Delaware apple grower has a wide market for early fruit and can send his late fruit by cheap water transportation to cold storage; and when it is taken out, it is placed directly on the stands of the retailers. The orchardists who have winter varieties of apples are now organizing and will employ expert box packers for fancy fruit of extra high quality. The flavor of Delaware apples is unsurpassed, especially of such varieties as Grimes, Jonathan, Stayman, Paragon and Mammoth Black Twig.

Dairying and pork production are both on the increase. Hog cholera has prevailed to some extent, a considerable outbreak occurring last year in New Castle county. The use of hog cholera serum is controlled by the state, and it is hoped to stamp out this disease.

The fourth North American International egg-laying competition will be staged at the Delaware Experiment station, Newark, beginning November 1. The contract is for three years. Not less than 100 pens will be entered in the competition, including several pens from the celebrated flocks of Tom Barron of England. The poultry products of Delaware amount annually to \$2,500,000. We propose to double the output in a year or two.

WESLEY WEBB,
Sec State Board of Agriculture.

Lemons will give more juice if they are heated in the oven before the juice is extracted.

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MISSOURI CROP REPORT.

The following report on Missouri crop conditions was issued August 1 from the office of the secretary of the Missouri State Board of Agriculture:

The rainfall for July was deficient over practically the entire state, and extreme heat has also injured crops. Only the western part of the state has had anything like sufficient moisture. In a general way, the territory that has suffered least lies west of a line extending from Barry county, in the southwestern part of the state, to Cooper, in the central part, and from there to Atchison, in the northwest. The counties bordering the Kansas line south from the Missouri river, and the northwest Missouri counties are generally in good condition, as are a few of the river counties in the western and west-central parts of the state. Conditions in southeast Missouri are the worst ever known there, according to the reports of many correspondents. Only the great natural resources of this section and the possibility of extensive crop diversification prevents more serious losses. With but one exception, all correspondents in southeast Missouri report need of rain. For the state as a whole, 80 per cent make similar reports. In brief, it may be said, that while a few counties received good rains during July, the territory of deficient moisture has enlarged and conditions gradually grown worse. Some wheat and rye will be sown for fall pasture, but in this there is need of precautions against spread of Hessian fly. Kafir and other catch crops may help some. Much straw is being baled. Fortunately, there is practically no complaint of insects.

Corn—Conditions of corn for the state is 68, as compared with 81, one month ago. The heaviest loss has been in the southeast section, where conditions fall from 68 to 32. Butler, Carter, Dent, Iron and Oregon counties report corn condition at less than 25, while a dozen other counties are but little better. In contrast with this, is northwest Missouri where corn condition is 84, which, however, is a loss of 11 points for the month. In this section, Andrew, Atchison, Holt, Platte and Jackson average 90 or better, while several other counties are almost as good. Corn condition in the north-east section is 70, a loss of 12 points; central is 72, a loss of 7 points; southwest is 82, a gain of 2 points. Corn condition in Barry, Cass, Johnson, McDonald, St. Clair, Stone and Vernon averages 90 or more, with other counties but little less. In some parts of the state much corn will go in shock or silo before the end of the month few farmers are now feeding green corn.

Wheat—It is estimated that 65 per cent of the wheat has been threshed, the average yield being about 17 bushels. One yield of 47½ bushels and another of 50 is reported, while there are numerous reports of better than 40 bushel yields. However, in many heretofore leading wheat counties the average yield is a disappointment. More wheat than usual has been stacked, and much is being fed.

Oats—Only about 60 per cent of the oat crop was cut with binder. Preliminary estimate of yield is 22 bushels per acre. In Buchanan, Cass, Henry and a few other counties the yield was better than 30 bushels. One correspondent reports a yield of 103½ bushels per acre on a small tract.

Other Crops—Hay yields are reported as follows: Timothy, 0.6; timothy and clover mixed, 0.75; prairie, 0.6; mixed, 0.85 tons. The hay acreage is greatly reduced and the total yield will show a decided shortage. Pastures are very poor, especially where worked on by army worms early in the season. For the state, pasture condition is 51. Condition of broomcorn is 90; flax, 78; melons, 50; tobacco, 62; cotton, 60; cowpeas, 71. Fruit has been injured somewhat. Condition of apples is 50.

Live Stock—Hogs are healthy. There is little or no complaint of cholera.

Keep a small note book hanging in some convenient place in the kitchen. Then when the supply of anything runs out jot it down right away. You won't forget it next time you go to the store as is often the case when some such scheme isn't adopted.

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Can Count Cattle Nearly 20 Miles Away.

F. S. Patton, Kansas, says: "Can count cattle nearly 20 miles away. Can see large ranch 17 miles east, and can tell colors and count windows in the house."

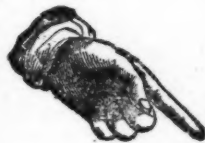
Saw an Eclipse of Sun.

L. S. Henry, The Saxon, New York, writes: "Your Solar eyepiece is a great thing. I witnessed the eclipse at the Austrian Tyrol when the sun was almost 80 per cent concealed."

Could See Sun Spots.

Rutland, Vt., Feb. 16, 1910.—Telescope arrived O. K. I have seen the spots on the sun for the first time in my life.—Dan C. Safford.

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From the Producer To the Consumer

THE CO-OPERATIVE UNION OF CANADA.

What the Co-operative Union of Canada is doing was the subject of a paper prepared by George N. Keen, general actuary, and read by Eric Forsby before the Second National Conference on Marketing and Farm Credits at the Hotel Sherman. The paper in part follows:

The necessity of establishing some defining, legislating, teaching and discriminating authority for Canada, equivalent to the British Co-operative Union, and the unions of other countries, because evident to the committees of a few bona fide co-operative societies, in order to protect the people from fraudulent exploitation, and also to develop throughout the Dominion a well-balanced movement looking eventually to the evolution of a co-operative commonwealth.

The Co-operative Union of Canada was organized on March 6th, 1909, and, by its rules, its objects are declared to be as follows:

1.—The recognition, by affiliation with the union, of all bona fide co-operative associations in the Dominion of Canada, in order that the public may be able to distinguish the same from institutions which are now or may hereafter be organized with a co-operative title for purposes of personal or private advantage or profit.

2.—The propagation in the Dominion of co-operative principles, to the end that the practice of truthfulness, justice and economy may be secured by the abolition of false dealing, either (a) Direct by representing any article produced or sold to be other than what it is known to the producer or vendor to be; or (b) Indirect, by concealing from the purchaser any fact known to the vendor material to be known by the purchaser to enable him to judge the value of the article purchased.

3.—Conciliating the conflicting interests of the capitalists, the worker and the purchaser through the equitable division among them of the fund commonly known as profit.

4.—Preventing the waste of labor now caused by unregulated competition.

5.—Cultivating a spirit of mutual service by self-abnegation expressed in the co-operative motto "Each for all, and all for each," and to promote, by the same means, moral, educative and refining enterprises designed for the improvement of the people generally.

Commencing with three societies, the Canadian Union has now 24 in affiliation; nine being located in Ontario, five in Nova Scotia, three in British Columbia, four in Alberta, two in Quebec and one in Manitoba. The revenue is provided by the periodical donations of the larger or more successful societies, the annual assessment of 50 cents per hundred members, fixed by the rules, contributing very little towards the payment of the expenses. Even the aggregate income is inadequate to hire more than clerical services, the officials of the Union having, for the five years it has been in existence, served without remuneration. The lack of the necessary revenue wherewith to finance the services of an adequate staff, has retarded the growth of the movement. Unless some other method is devised to provide sufficient funds, it means that, in the early days, growth will be slow, because the hire of a directing, teaching, literary and organizing staff is dependent upon the increase in members and prosperity of the contributing societies federated with the Union. While slow in growth, during the initial years, Canadian co-operators have, however, the advantage that developments are being made upon a solid and permanent basis, and they have the satisfaction of knowing that in other countries the ratio of progress has increased with the number of societies organized.

Notwithstanding the financial handicap, the Canadian Union has been of incalculable service to the movement in the Dominion. It has disseminated co-operative information and litera-

ture, furnished advice, enabled inexperienced people to distinguish between true and false types of co-operation, and put at the service of co-operators resident in nearly every province value of the cumulative experience of all societies, thereby enabling promoters of new institutions to avoid a repetition of the mistakes of those which have preceded them in organization. As and when sufficient societies are established in the various provinces, sections of the Union will be organized by the local societies for intensive development, consultation and mutual service. So far the only section organized is one in Nova Scotia, and it is doing much educational work in that province, as well as linking up the individual societies for mutual benefit. Under the auspices of the section, a wholesale organization known as the Candidate Co-operative Wholesale Society, Limited, has been incorporated, and it commenced business in July last. Each retail society owns, in conformity with the British practice, shares in the wholesale in proportion to membership and is entitled to participate in profits based upon their respective purchases therefrom. Such wholesale society is federated with the Co-operative Wholesale Society of England, and has access to the factories, mills, warehouses and plantations of that institution for its requirements. With the increase of the number, size and success of retail societies in each province, and the organization of provincial sections of the Canadian Union, we are expecting there will be established wholesale societies in each province which, in their turn, having organized and ascertained the demand of retail societies for merchandise, will, it is expected, eventually federate for the joint establishment, direction and operation of factories and mills to satisfy the same.

I am of opinion that a national co-operative union with state sections or state co-operative unions eventually incorporated into a national federation of co-operative unions, is essential to the development of the co-operative movement in the United States along practical, correct and progressive lines. Without such union or unions co-operation will be represented by a considerable number of isolated organizations of uncertain genuineness. They would have little or no knowledge of each other, and no opportunity for the exchange of opinions or experience, or of co-operation to produce material results of common advantage which would be possible if they were federated in an union. The elimination of waste and the conservation of human energy whereby economies may be effected in production and services, for equitable enjoyment among those who contribute thereto, will not be possible unless co-operative effort is co-ordinated, systematized and scientifically organized. Co-operation is not merely a mechanical economic device whereby certain material advantages to the individual can be gained. Successful co-operation, as well as the measure of it, is dependent upon the individual intelligence of the members who are associated in co-operative societies. Education of the individual members, officials, managers, and staffs is needed, and such of it, in co-operative principles and economics, citizenship and effective propaganda and business methods. The isolated society is usually too self-centred, and selfish, to appreciate the urgent need of co-operative education. Its efforts are concentrated on the profit making aspect to the exclusion of the educational, thereby unconsciously acting in restraint of material progress. It feels, erroneously, the value of education is too remote to justify the expenditure of much time and money thereon.

This conference is, I understand, principally concerned in the study and discussion of questions affecting farm credits and the marketing of agricultural produce. The full advantages of co-operative effort cannot be enjoyed by agriculturists who approach the question solely from the viewpoint of class advantage. Farm-

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spirit of brotherhood, for their mutual advantage, assessing value on basis of equity, neither side seeking to take advantage of the other, and both in every way possible co-operating for the betterment of either class.

The whole weight of the material strength, accumulated experience, and social influence of such an union, be it on a national scale, through federated state sections, or should it consist of individual state unions, could be brought to the relief and advantage of each individual society, no matter how small or struggling, with great effect. It would greatly minimize the possibility of unsuccessful efforts, which always have the effect of discouraging subsequent attempts. It would, too, unify social sentiment, promote good understanding, and obliterate class distinctions and ambitions.

The officials of such unions would be equipped to agitate and educate the people, and develop the co-operative spirit necessary to successful application of the principles of co-operation in every state, in the organization of:

1.—Consumers societies to ascertain their needs and eliminate unnecessary expenses in distribution, and subsequently, through them, wholesale societies, factories and mills.

2.—Agricultural productive societies whereby the raw produce of the individual members could be converted in-

to table commodities.

3.—Credit societies for the provision of financial accommodation on a non-profit basis for the assistance of land cultivators, and ultimately, as the same grew in strength and federated in central banks, more convenient and economical methods of borrowing money on long term land mortgages.

4.—Marketing societies to standardize quality, ascertain the best available markets and to reach the same by the quickest methods and at the minimum of expense.

5.—Housing societies in the urban communities whereby the unearned profit element may be eliminated, and houses be built for the use of those who need to occupy them instead of for the profit of speculators, thereby increasing the purchasing power of wage earners, besides providing for them a more desirable social environment, and adequate domestic accommodation.

6.—Labor co-partnership factories, whereby the profits of industry, after payment of a fixed and normal rate of interest, may be returned to the workers who create them in proportion to the extent they have, by their labor, contributed thereto.

7.—Such other agricultural, industrial, financial, commercial or social effort to which any body of men may find the co-operative principle can be advantageously applied.

FARMERS' ELEVATORS.

When the farmers determined to enter the field of co-operative grain marketing they were beset by many obstacles. In the first place it was difficult for them to procure trackage sites from the railroads for their elevators. When they did procure sites and build their elevators, every possible device of destructive competition was brought into play by the line elevator companies to fill them before they could get fairly started. Add to these difficulties the inexperience of the farmers in business affairs, and the resulting poor management of their elevators, and it is only natural that a great many failed. In spite of early discouragements, the farmers persevered, and today we have a goodly number of successful farmers' elevators in many of the states of the grain belt—notably Illinois, Iowa, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska and Kansas.

Frequent failures among farmers' elevator companies, however, have not been confined to the early days of the movement. They are still occurring with deplorable frequency. Competition of line elevator companies at local points still persists. Poor management, in the form of inefficient managers and cumbersome and faulty accounting systems, is still common. Every year, scores of farmers' elevators are closed in the Northwest, but the aggregate number in operation is steadily increasing, owing to the entrance of new companies every year. These facts suggest the principal problem connected with the farmers' elevator movement today, viz., what means shall be adopted to place existing companies on a sound basis, and to insure to new companies a reasonable chance of permanent success?—L. D. H. Weld, Agricultural Economist, University Farm, St. Paul.

GOOD ROADS IN DOLLARS AND CENTS.

Approximately \$206,000,000 was spent last year on public roads in the United States, according to statistics prepared by the U. S. Department of Agriculture. In 1904 the total was only \$79,000,000. In nine years, therefore, the increase has been over 250 per cent.

This awakening on the part of the country to the importance of good roads has, experts say, been due in great measure to the principle of state aid to counties and other local communities. New Jersey began the movement in 1891 when it passed its state highway law. Massachusetts and Vermont followed a year later, but for the most part the other states were slow to move. In 1904 only 15 had state highway departments; today there are only six that have not. In 1913 the individual states appropriated a total of \$38,755,088 to supplement local expenditures.

The value of this state aid is, however, not to be measured by the figures alone, for the bulk of the money comes, and always must come, from the counties and townships. Thus, in 1912, the cash outlay by counties, districts and townships, was \$137,493,985. Complete figures for 1913 are not yet available, but it is safe to estimate the sum at approximately \$151,000,000. To this must be added some \$15,000,000, to represent the value of the labor contributed instead of cash in districts where this practice prevails. Last year, therefore, local communities contributed, in round numbers, \$166,000,000, as against appropriations from state treasuries of \$38,755,088. The true importance of this \$38,000,000 lies in the fact that it means expert supervision of the expenditure of a considerable portion of the vast sum of \$200,000,000. When each county built as it chose and when it chose, the services of trained engineers were usually out of the question. There was little opportunity to test innovations, little advance in the science of road-building, and there was also difficulty in arousing each county individually to do its best to improve conditions within its own limits. State aid has changed all this. The best engineering skill is available for all works of importance, there is co-operation and a constant stimulus to further improvements. The money contributed by the states does not only build more roads, it makes better those that other money builds.

At the present time there are in the United States, 20,741 miles of roads improved either wholly or in part by state aid. This is nearly the mileage of the French routes nationales, the system of great national highways which is the envy of every civilized nation. The routes nationales are, of course, only a small part of the total mileage of France, where practically every road of any importance is an improved road, and France is a vastly smaller country, both in area and in population than the United States, so that this comparison is not, in itself, very flattering to our progressiveness. It shows, however, that we have at least made a beginning. Of the 2,226,842 miles of roads in the United States, 223,774 miles, or approximately 10 per cent, are classed as improved.

To improve the remaining 90 per cent may well seem a big job. It is, in fact, only made possible because the work really pays for itself. From material gathered by the U. S. Department of Agriculture, it is now possible to prove not only that good roads are a profitable investment, but to determine exactly what dividends they pay. An investigator assigned to this

problem in any given locality first ascertains the extent of the territory that is tributary to any main road, much as one might ascertain the territory tributary to some river. The next step is an accurate estimate of the total products of this territory; so much grain, so much tobacco, so much garden truck, etc. Of this quantity a certain portion is consumed on the farm; the rest is shipped over the road in question. The whole calculation can then be checked by investigators at the shipping point to which the road leads. In general it has been found that the two methods yield much the same information—the total amount of produce hauled over the road. Next, the length of the average haul is calculated, the size of the load permitted by the character of the road ascertained, and the cost of teams and drivers figured. With these facts before him, the investigator is now able to state positively the cost of hauling a ton of produce on that road, to express in terms of those "ton-miles" the freight traffic on the road, and finally the total cost to the community served by the road of hauling its goods to market. Armed with these data, it is easy to decide how much money can be profitably spent in improving the road, and what are the returns that the investment yields to the community.

These returns are of various kinds. First and foremost is the reduction in the actual cost of hauling, the plain fact that it takes less time and labor to haul a load over a good road than over a poor one. Less obvious is the

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effect of improved roads in increasing the total output of a community. In the case of one county in Virginia where particularly thorough records have been kept, this output was more than doubled. The farmers found that with a market always and readily accessible to them, it paid to work the land to its maximum production.

This explains the very remarkable rise in farm land values which nearly always accompanies road improvement. The rise is not a fictitious one, of no benefit to the man who wishes to farm and not to sell. The land is more valuable because it can profitably be made to produce more. In other words, the money that goes into the road comes back with interest from the land.

CARE OF RASPBERRY PLANTS.

The productiveness of the raspberry plantation next year will depend largely on the treatment received after the present season's harvest is over. As soon as the picking season is past, all old canes—those that have borne berries this year—should be cut out and burned, leaving the entire space for the new canes. About ten of the new canes are left in a place, any in excess of this number being pruned out. This is a larger number than is necessary, but provides against the breaking of some of the canes when they are covered in the fall.

The plantation should be cultivated every week or ten days until the latter part of August when cultivation should cease in order to permit the wood to mature before cold weather sets in. Irrigation should be thorough but not frequent. This treatment will keep the plants in a vigorous healthy condition and aid them to store up food for the crop next season.

Some growers prefer to top the new canes and this is desirable where they tend to grow too high. Such topping should be done in August, leaving the canes about four feet high.—R. A. McInity.

Three things that ought to be in every kitchen are a bottle of prepared glue, a small hammer and a box containing an assortment of tacks and nails. You'll find so many uses for them that you will wonder how you ever got along without them before.

Missouri County Fairs

Andrew, Bolckow Fair Ass'n., Bolckow, W. W. Craig, Sec.	Aug. 25-27
Bates, Bates Co. Fair, Butler, C. E. Robbins, Sec.	Sept. 8-11
Buchanan, Buchanan Co. Agr. & Mec. Soc., Easton, J. P. Sweeney, Sec.	Sept. 2-5
Buchanan, Interstate Fair & L. S. Show, St. Joseph, H. L. Cook, Sec.	Aug. 20-25
Callaway, Callaway Co. Fair, Bloomfield, S. D. Waggoner, Sec.	Aug. 18-20
Cape Girardeau, Cape Girardeau County Fair & Park Ass'n., Cape Girardeau, J. T. Nunn, Jr., Sec.	Sept. 30-Oct. 2
Chariton, Prairie Hill Fair, Prairie Hill, O. Z. Sears, Sec.	Sept. 8-5
Clark, Clark Co. Agr. & Mec. Ass'n., Kahoka, F. J. Wilsey, Sec.	Aug. 25-28
Clinton, Plattsburg Fair Ass'n., Plattsburg, Geo. C. Bryan, Sec.	Sept. 1-4
Cole, Centertown Live Stock Show, Centertown, R. S. Hathhorn, Sec.	Oct. 7-9
Cooper, Bunceton Fair, Bunceton, E. C. Nelson, Sec.	Aug. 25-28
Crawford, Crawford Co. Fair Ass'n., Cuba, I. C. Walker, Sec.	Sept. 8-11
Dade, Dade Co. Agr. & Mec. Soc., Lockwood, Dr. R. A. Frye, Sec.	Sept. 29-Oct. 2
Davies, Pottawatomie Fair Ass'n., Pottawatomie, R. E. Maupin, Sec.	Aug. 25-28
DeKalb, DeKalb Co. Agr. & L. S. Exhibit, Maysville, E. A. Hofstatter, Sec.	Sept. 2-5
Franklin, Franklin Co. Fair, Washington, H. H. Thias, Sec.	Sept. 10-12
Gasconade, Gasconade Co. Agr. Ass'n., Hermann, L. Habersack, Sec.	Aug. 28-30
Grundy, Grundy Co. Fair Ass'n., Trenton, A. T. Cornwell, Sec.	Sept. 1-4
Green, Driving Park Fair, Springfield, Jesse M. Cain, Sec.	Oct. 6-10
Hickory, Hickory Co. Fair, Hermitage, U. E. Wilson, Sec.	Aug. 25-28
Howard, Howard Co. Fair Ass'n., Fayette, Jasper Thompson, Sec.	Sept. 8-11
Holt, Nodaway Valley Agr. Fair Ass'n., Maitland, G. F. DeBord, Sec.	Aug. 18-21
Jackson, Independence Fair, Independence, W. H. Johnson, Sec.	Sept. 1-4
Jefferson, DeSoto L. S. Agr. & Hort. Ass'n., DeSoto, C. J. Davidson, Sec.	Sept. 22-25
Johnson, Chilhowee Annual Colt Show, Chilhowee, D. L. Albin, Sec.	Sept. 1-4
Knox, Knox & Shelby Co. Fair, Newark, W. A. Henderson, Sec.	Sept. 1-4
Lewis, Lewis Co. Agr. & Mec. Fair Ass'n., Monticello, J. A. West, Sec.	Oct. 6-9
Lincoln, Lincoln Co. Fair, Troy, O. D. Bradley, Sec.	Aug. 25-28
Macon, Callao Fair Ass'n., Callao, E. G. Jones, Sec.	Sept. 15-17
Macon, New Cambria Fair Ass'n., New Cambria, W. E. Howell, Sec.	Sept. 8-10
Marion, Marion Co. Fair, Palmyra, G. B. Thompson, Sec.	Sept. 9-12
Monteau, Monteau Co. Fair Ass'n., California, L. B. Meyer, Sec.	Sept. 2-4
Monroe, Monroe City Fair Ass'n., Monroe City, E. J. Alexander, Sec.	Aug. 18-21
Monroe, Monroe Co. Fair Ass'n., Paris, Penn. Brace, Sec.	Sept. 1-4
Montgomery, Montgomery Co. Agr. & Mec. Soc., Montgomery City, Geo. R. McVey, Sec.	Sept. 15-18
Osage, Osage Co. Fair Ass'n., Linn, L. M. Luckenhoff, Sec.	Sept. 1-4
Phelps, Phelps Co. Agr. & Mec. Soc., Rolla, W. T. Denison, Sec.	Sept. 15-18
Pike, Pike Co. Fair Ass'n., Bowling Green, H. M. Strother, Sec.	Aug. 18-21
Platte, Platte Co. Agr. & Mec. & Stock Ass'n., Platte City, G. C. Johnson, Sec.	Sept. 2-4
Polk, Polk Co. Agr. & Mec. Soc., Bolivar, W. U. Townsend, Sec.	Sept. 1-5
Ralls, Ralls Co. Fair, New London, J. R. Rice, Sec.	Sept. 1-4
Randolph, Clark Fair Ass'n., Clark, R. R. Correll, Sec.	Sept. 2-4
Randolph, Randolph Agr. & Mec. Soc., Jacksonville, Geo. W. Butler, Sec.	Aug. 25-27
Saline, Saline Agr. Fair Ass'n., Marshall, E. W. Brown, Sec.	Aug. 25-28
Scotland, Scotland Co. Fair, Memphis, J. R. Hudson, Sec.	Sept. 1-4
Scott, Tri-County Fair, Sikeston, H. A. Smith, Sec.	Sept. 23-26
Shannon, Shannon Co. Agr. & M. S., Birch Tree, S. S. Whitlock, Sec.	Sept. 30-Oct. 3
Shelby, Shelby Co. Agr. & Mec. Soc., Shelby, W. H. Gillispie, Sec.	Aug. 18-21
Sullivan, Green City Fair Ass'n., Green City, A. E. Jones, Sec.	Aug. 18-21
Sullivan, Sullivan Tri-Co. Fair Ass'n., Sullivan, S. H. Sullivan, Jr., Sec.	Aug. 26-29
St. Louis, St. Louis Co. Fair Ass'n., St. Louis, St. Louis Co. Fair Ass'n., Sec.	Aug. 26-29
Upper Greve Coeur Lake, Geo. B. Bowles, Sec.	Sept. 17-20
Warren, Warren Co. Fair, Wright City, Wm. Heidtman, Sec.	Sept. 23-25
Wright, Third Annual Agr. & Stock Show, Mansfield, Ernest Coday, Sec.	Oct. 15-17

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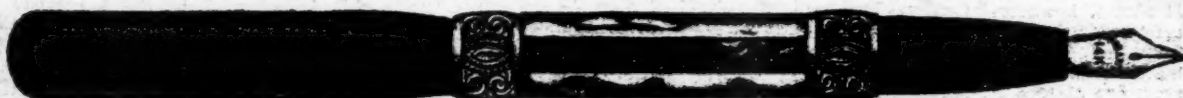
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American Model, stem-wind and stem set, suitable for a lady, gentleman, boy or girl. Case is embossed with a beautiful and chaste design, and presents a rich and elegant appearance. Attractive easy reading dial, with hour, minute and second hands, and is dust proof.



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Ring
Set With
Three
Brilliant
Stones**

PEARL FOUNTAIN PEN



The barrel is a genuine guaranteed hard rubber; cap is of the same material. The barrel is inlaid with mother of pearl decorations and you can see the beautiful design from the illustration. The inlaid work is held in place by two fancy gold plate bands; pen point is guaranteed 14K solid gold, and in every respect this fountain pen is first class.

Camera Outfit



This Camera outfit includes camera with automatic shutter, plates, developing tin, developer and fixer and full instructions. Will take clear and sharp pictures. Covered with moroccoette.

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Made of rich German Silver which has an extra finish, and is decorated with fancy flower border. This case has a mirror of good quality, and powder puff compartment and places for quarters, dimes and nickels, also a strong catch that will hold cards and bills. Attached to this Vanity Case is a ten-inch chain. Size of case is 3 1/2 x 2 1/2.



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Handbag

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